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VOL. 84 NO. 1

textile bulletin

JANUARY • 1958

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BPA NBP

LOOM NECESSITIES

Made from the Finest Hickory

Box Fronts
Crank or Pitman Arms
Creel Sticks
Harness Roll Bearings
Jack Sticks

Laysword Reed Caps
Lease Rods
Roving Sticks
Top Clearer Boards
Under Clearer Roll Sticks
Whip Roll Blocks
Whip Roll Shaft Bearings

THE BULLARD CLARK COMPANY

JACOBS

SOUTHERN DIVISION
Charlotte, N. C.

NORTHERN DIVISION
Danielson, Conn.

New Veeder-Root Textile Catalog

Condensed, concise, complete . . . that's the new 1957 Catalog of Veeder-Root Textile Counters (in full color) just off the press and waiting for you to "ask for it."

Catalog T-57 gives complete specifications and dimensional diagrams on all types of textile counters . . . pick, cut, hank, yardage, inspection . . . and knitting-machine counters, too.

See how to count your way to new methods of Cost-*Count*rol . . . and new profits. Send for this valuable book *today*.

Veeder-Root
INCORPORATED
"The Name that Counts"
HARTFORD, CONN. GREENVILLE, S. C.

Chicago • New York • Los Angeles • San Francisco • Montreal • *Offices and Agents in Principal Cities*

Need

NEW

Pickers?

THE DEAD-WEIGHT, CONSTANT-PRESSURE CALENDER RACK RELEASE

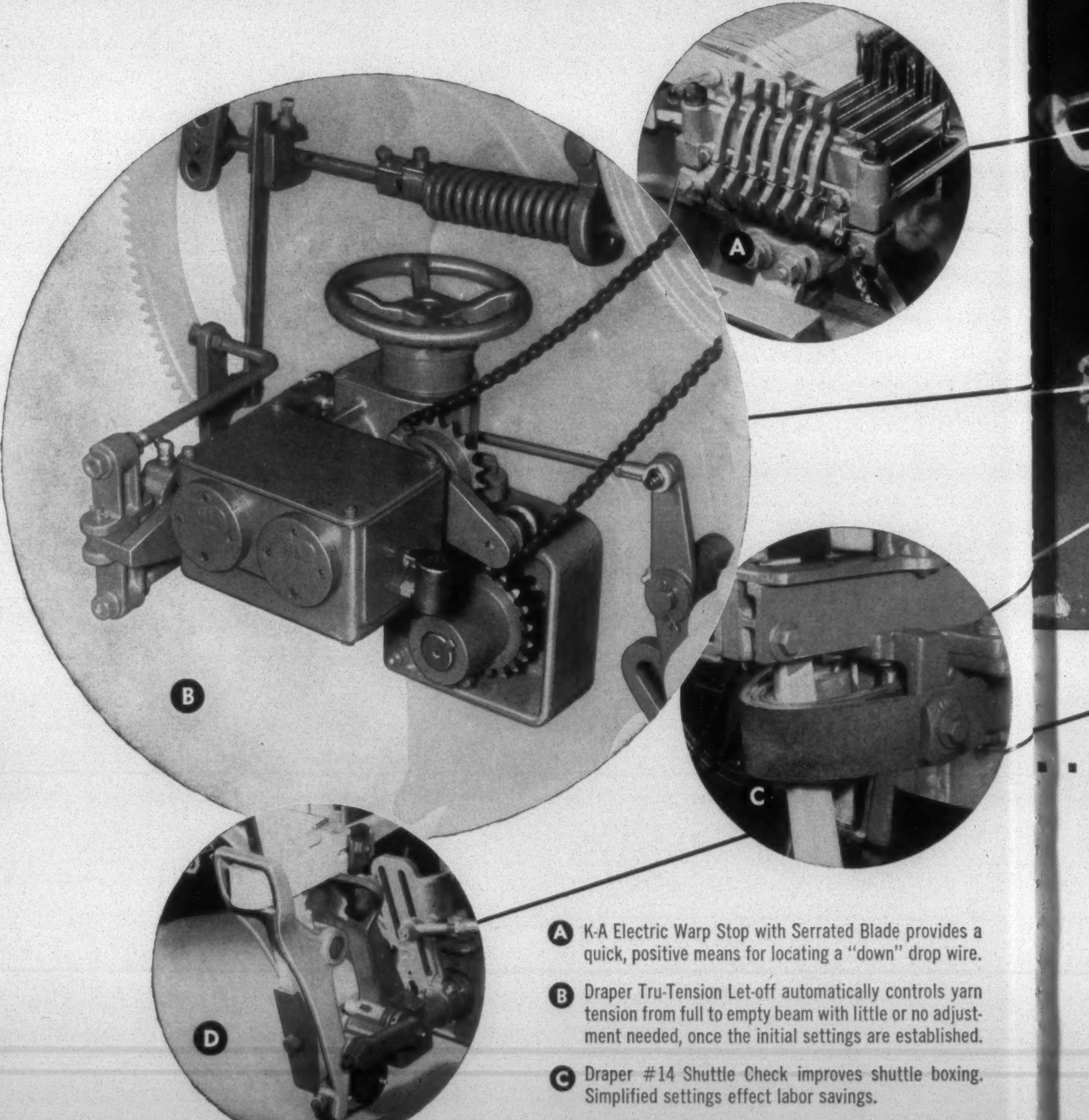
This replaces the old friction let-off, and applies dead weight to the calender racks in the same manner as if a weight were hung on a drum-pulley on the calender rack cross-shaft. The disc, which replaces the old friction drum, is firmly gripped by clutch-pads on each side of the disc. The slightest movement of these clutch pads automatically opens them to let the let-off disc move. The disc is therefore constantly holding a dead weight in suspension, and the pressure on the lap is quite uniform.

This makes firmer, heavier laps without calender rack breakage.

AldricH MachinE WorkS
Greenwood, South Carolina

791896

Proven Loom Developments . . .

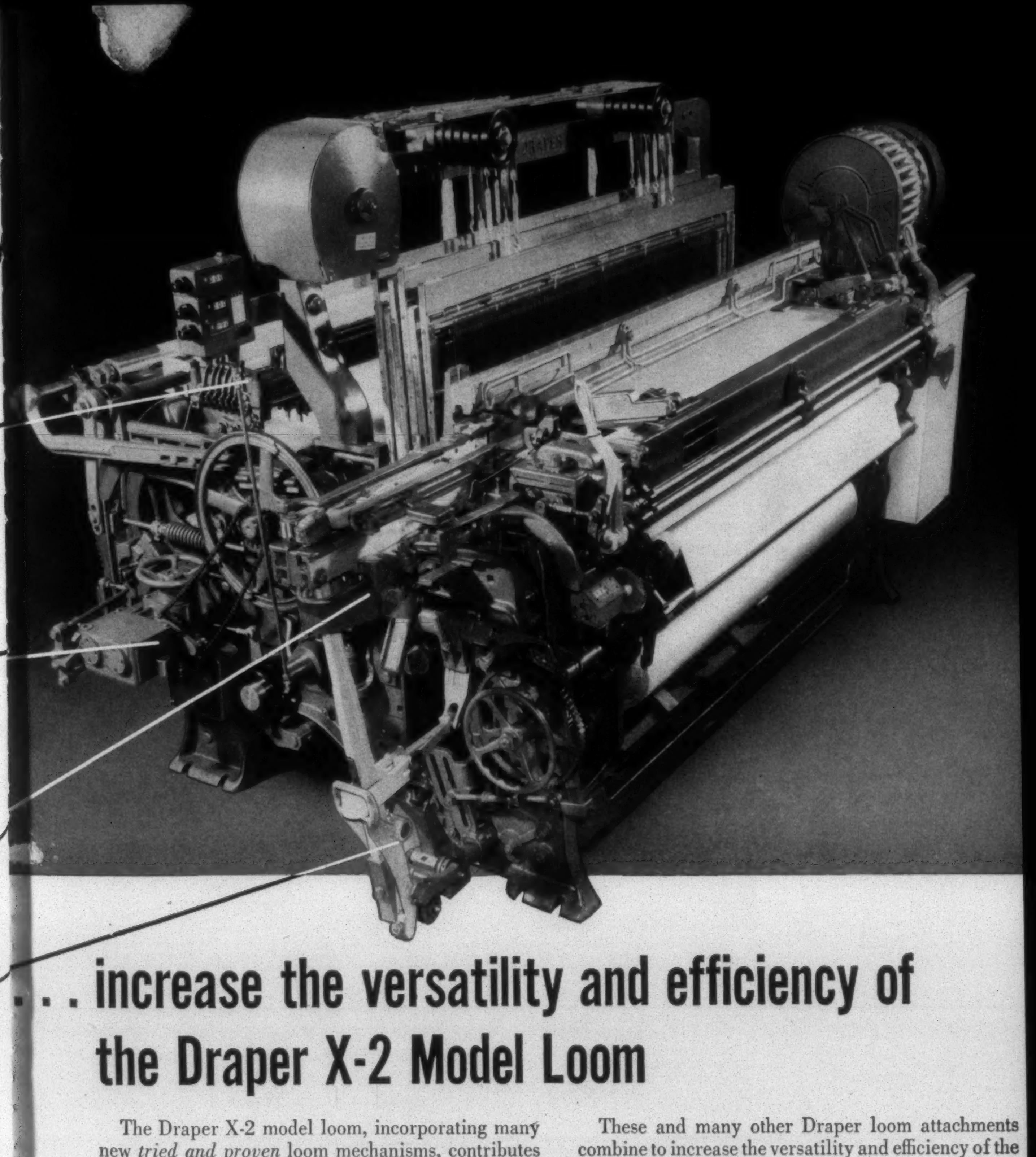


Ⓐ K-A Electric Warp Stop with Serrated Blade provides a quick, positive means for locating a "down" drop wire.

Ⓑ Draper Tru-Tension Let-off automatically controls yarn tension from full to empty beam with little or no adjustment needed, once the initial settings are established.

Ⓒ Draper #14 Shuttle Check improves shuttle boxing. Simplified settings effect labor savings.

Ⓓ Draper Link Type Parallel gives a uniform, controlled picking action . . . improves loom operation . . . reduces wear on pick motion and parallel parts.



. . . increase the versatility and efficiency of the Draper X-2 Model Loom

The Draper X-2 model loom, incorporating many new *tried and proven* loom mechanisms, contributes to greater weave room economy.

The new Tru-Tension Let-off controls yarn tension automatically, from full to empty beam. Cloth defects commonly attributed to the Let-off are eliminated and substantial savings are possible on critical weaves.

Other loom developments, including the Link Type Parallel, #14 Shuttle Check and the K-A Electric Warp Stop with Serrated Blade improve loom performance . . . reducing down time and costly repairs.

These and many other Draper loom attachments combine to increase the versatility and efficiency of the Draper X-2 model loom.

DRAPER
CORPORATION

HOPEDALE, MASS.

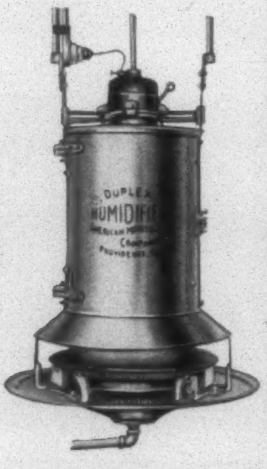
Atlanta, Ga. • Greensboro, N.C. • Spartanburg, S.C.

30 YEARS with CHICOPEE

Widely known for its fine textile products . . . Chicopee Manufacturing Corporation appreciates that fine products require the best manufacturing equipment and air conditioning systems.

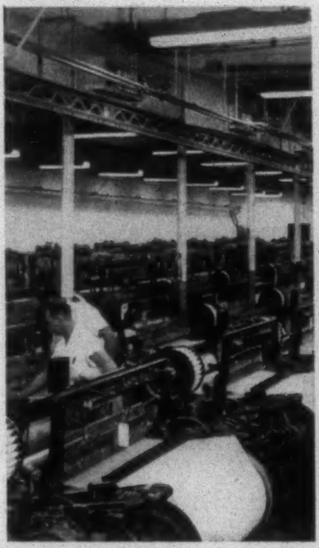
As Chicopee has grown, progressed and modernized, it has relied predominantly on Amco to satisfy each of its air conditioning needs with the system best suited for each particular process.

1927

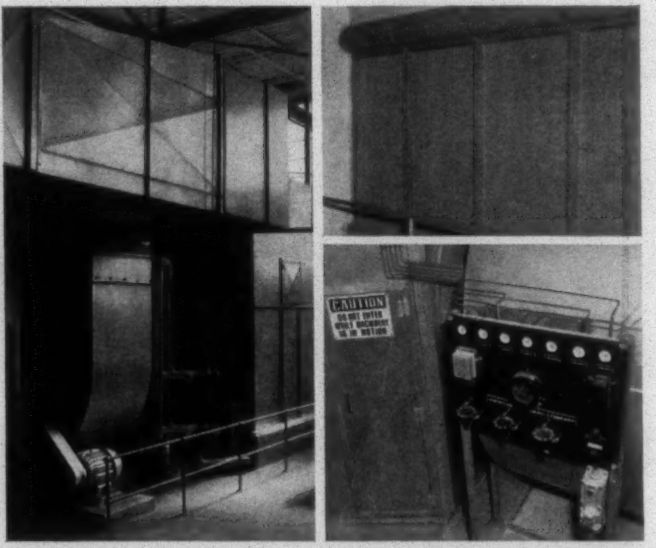


In 1927, Chicopee humidified its Gainesville Cotton Mills with Amco Duplex Humidifiers — high-duty, spray type humidifier with motor-driven fans.

1957



In 1957, *30 years later*, an Amco Dry Duct system was installed in a weave room addition at Walhalla, S.C.



As recently as 1955, Chicopee installed Amco Central Station systems in its Bensenville, Illinois and Milltown, New Jersey plants, where the famous Masslinn Non-Woven Fabrics are produced.

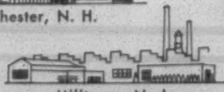
Amco systems installed in Chicopee plants from 1927 to 1957

Chicopee Falls, Mass.

Bensenville, Ill.

Walhalla, S. C.

Manchester, N. H.


Milltown, N. J.

Gainesville, Ga.

Straight Humidification
Bensenville, Ill.; Chicopee Falls, Mass.; Gainesville, Ga.; Manchester, N. H.; Milltown, N. J.

Evaporative Cooling
Chicopee Falls, Mass.; Manchester, N. H.; Walhalla, S. C.

Dry Duct
Walhalla, S. C.

Central Station with Air Washers
Bensenville, Ill.; Milltown, N. J.

Whether your need is for one room or an entire mill, Amco offers air conditioning to meet your requirements. Amco designs and installs all types of systems — humidification; humidification in combination with cooling, as in the ductless evaporative cooling system; unit dry-duct systems; central station systems, with or without refrigeration.

Amco engineers will be glad to advise you on any air conditioning problem — without obligation.

AMCO
AIR CONDITIONING SYSTEMS

AMERICAN MOISTENING COMPANY • CLEVELAND, NORTH CAROLINA
BRANCHES: ATLANTA, GA. • BOSTON, MASS. • CAMDEN, N. J. • PROVIDENCE, R. I. • TORONTO, ONT.

you insure your Plant against DISASTER

. . . but what about
COMPETITION?

Disaster can strike damaging blows — you wouldn't dare to be without insurance!

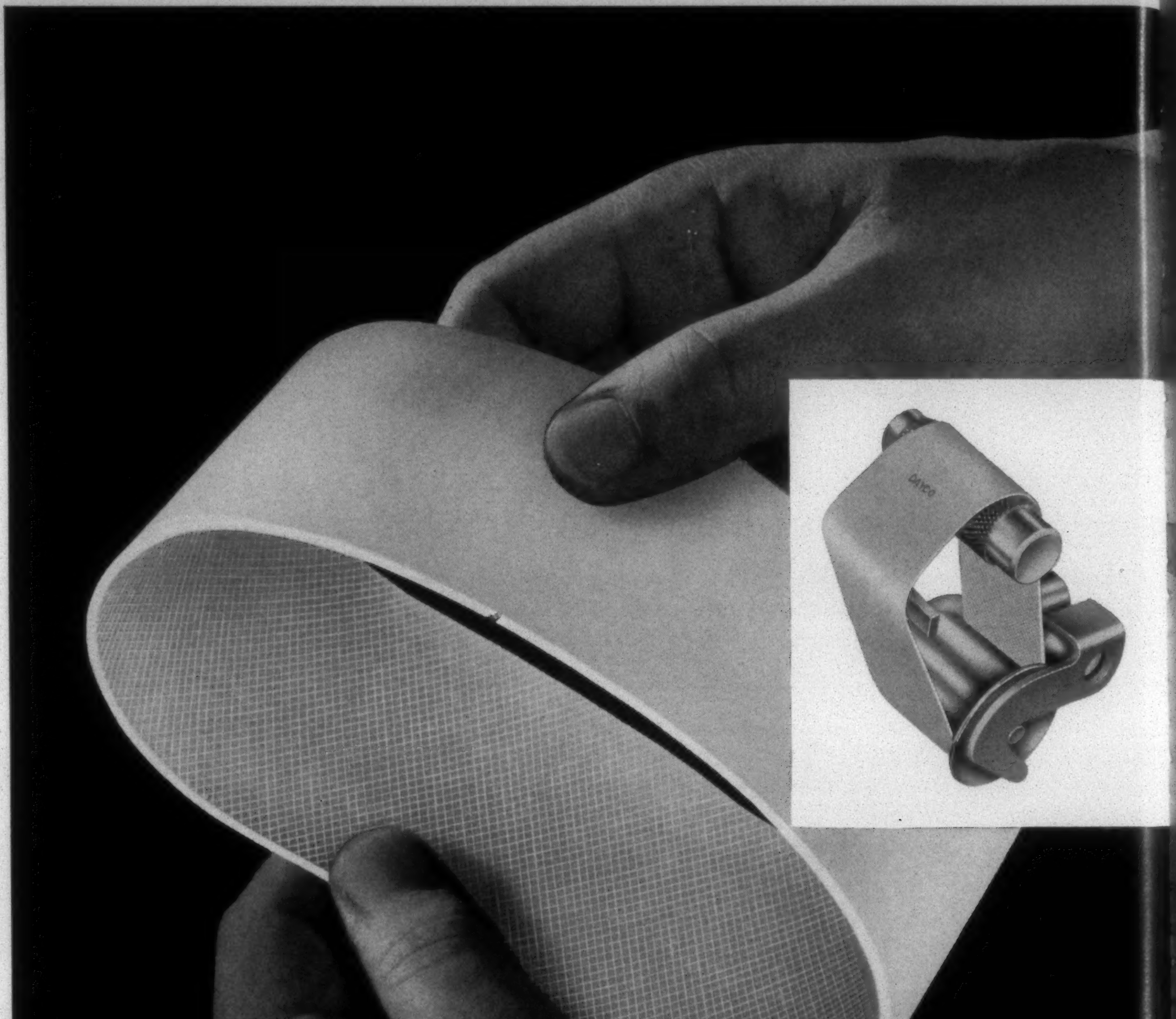
But, what can be more damaging than loss of COMPETITIVE POSITION. Alert mill men are finding Whitin Spinning Changeovers effective insurance against such loss — an economical way not only to keep older frames running — but to make them *competitive.* They call it "Competition Insurance"! There is a wide variety of Whitin Changeover or Conversion Units. Each is specifically designed to benefit you — each is manufactured with the same technical skill and precision found in new Whitin machinery. In its special way, each will give your older frames a new lease on productive life by increasing yarn quality, lowering spinning costs, or both.

Whitin Changeovers may be purchased alone or in combination. Let us show you how you can "Competition-Proof" your mill by applying our SUPERDRAFT Changeovers, Unitrol Weighting, Band to Tape Changeovers, Changeovers to increase size of package, as well as vitally important individual components such as Pioneer spindles, Whitin rings, new draft gearing or anti-friction bobbin holders.

Buy "competition insurance"-BUY WHITIN!

Whitin MACHINE WORKS
WHITINSVILLE, MASSACHUSETTS

CHARLOTTE, N. C. • GREENSBORO, N. C. • ATLANTA, GA. • SPARTANBURG, S. C. • DEXTER, ME.


DAYCO

Exclusive Dayco Embossed Design

Cuts apron drag in half

On Systems not using fixed centers.

THE EMBOSSED inside surface—exclusive with new Dayco Aprons—is the first really basic change in apron design in over 20 years. Run your thumb over the inside of one of the new aprons and notice how it floats on the bosses . . . and smoothly, too! That's exactly the way an embossed Dayco Apron rides over the nose-bar because the bosses reduce the area of contact and the total friction drag.

First
Basically New Design
in 20 years

HERE'S WHAT the laboratory reports on the new embossed Dayco Apron . . . "lowest coefficient of friction" . . . "less friction drag than any other apron ever tested" . . . "50% less waste collecting at the nose-bar" . . . "no evidence of chatter or of a tuck forming ahead of the nose-bar."

THE BIG DIFFERENCE is the embossed pattern which substantially reduces the area of contact with the nose-bar and, in so doing, cuts apron drag in half!

While this is the most advanced apron design on the market, Dayco Aprons with exclusive embossed design, are yours at absolutely no extra cost. And, you can order now if you're presently using a size B-60 apron or larger.

NEW IN BASIC CONCEPT and design, Dayco Aprons retain the mill-tested features that have marked Dayco Aprons as the finest available. . . . the pliant, non-stretch cord body . . . the lint-free outer surface. Thus you have the same long wearing, non-glaze surface that's unaffected by extremes of heat and humidity or by oils found in staple fibers.

Equip your frames with the revolutionary new Dayco Aprons, with exclusive embossed design, in sizes B-60 or larger . . . for complete details, write The Dayton Rubber Co., Textile Division, 401 S. C. National Bank Building, Greenville, South Carolina.

Dayton Rubber

Dayco and Thorobred Textile Products for Better Spinning and Weaving

Setting records to rival the satellites . . .

Around the world 1113 times for $1.00

Calculations based on typical mill production records of Victor 4/0 F1.1 X3D Travelers show that one dollar's worth ran about 27,840,000 miles — 1113 times the distance around the world at the equator.

Such durability in tiny travelers is something to impress even the satellite builders. And, considering the billions of dollars it costs to launch just one satellite into its orbit, they find Victor Traveler *economy* even more amazing.

Performance like this is convincing proof that Victor's special attention to quality control pays off for you. You can be sure that the Victor Travelers you choose will take top rating in any test for uniformity and lasting economy.

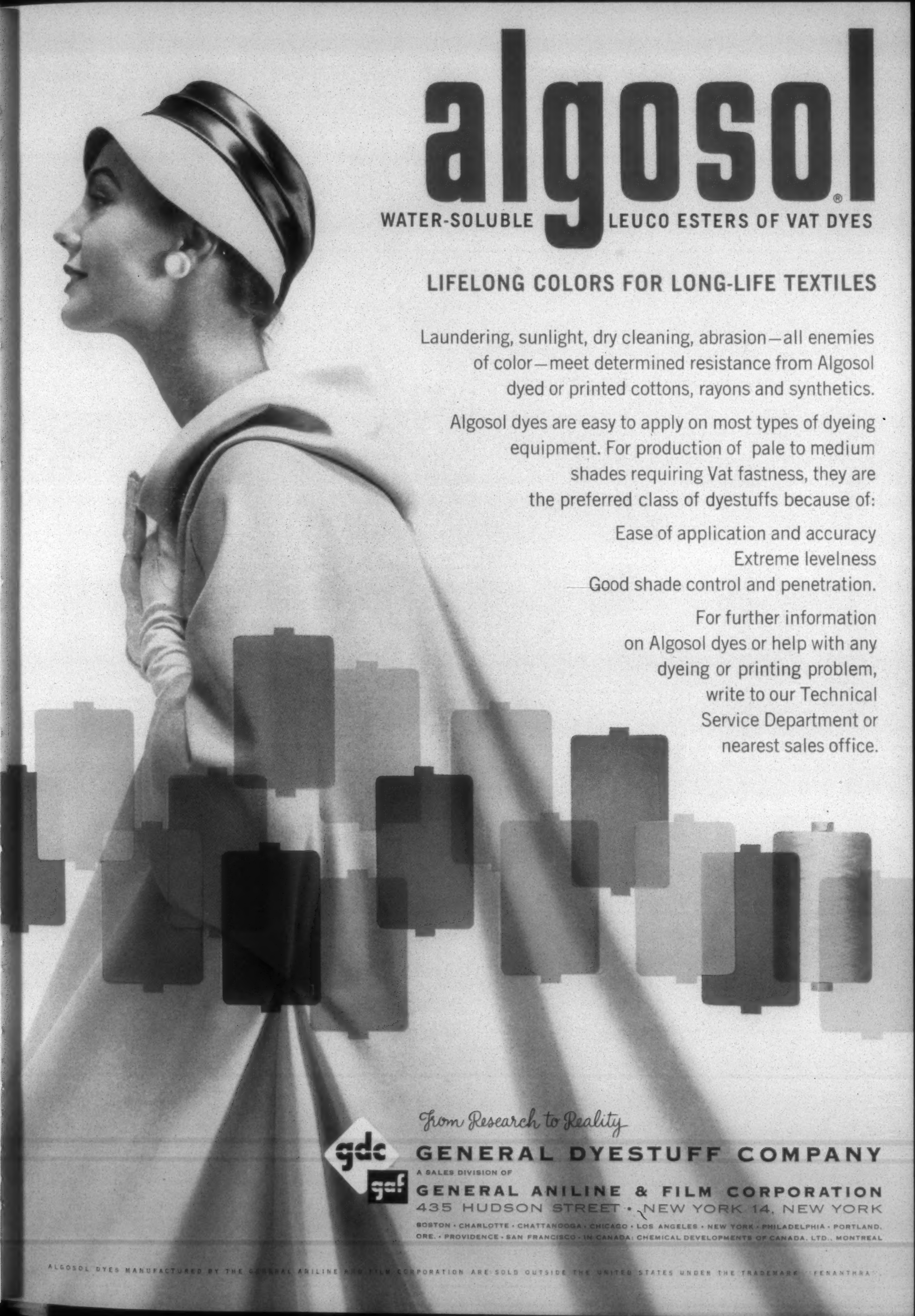
Plan now to talk to a Victor Service Engineer. He can help you choose the right travelers for your spinning or twisting, whether you are running conventional fibers, synthetics, or blends. Write, wire, or phone the nearest Victor office . . . for prompt service.

Keep a Step ahead with

VICTOR Ring Travelers

VICTOR RING TRAVELER DIVISION
OF SACO-LOWELL SHOPS

PROVIDENCE, R. I. . . 1 Sabin St. . . . . Tel. DExter 1-0737
GASTONIA, N. C. . . . 914-916 East Franklin Ave. . . Tel. UNiversity 4-3221



algosol®

WATER-SOLUBLE LEUCO ESTERS OF VAT DYES

LIFELONG COLORS FOR LONG-LIFE TEXTILES

Laundering, sunlight, dry cleaning, abrasion—all enemies of color—meet determined resistance from Algosol dyed or printed cottons, rayons and synthetics.

Algosol dyes are easy to apply on most types of dyeing equipment. For production of pale to medium shades requiring Vat fastness, they are the preferred class of dyestuffs because of:

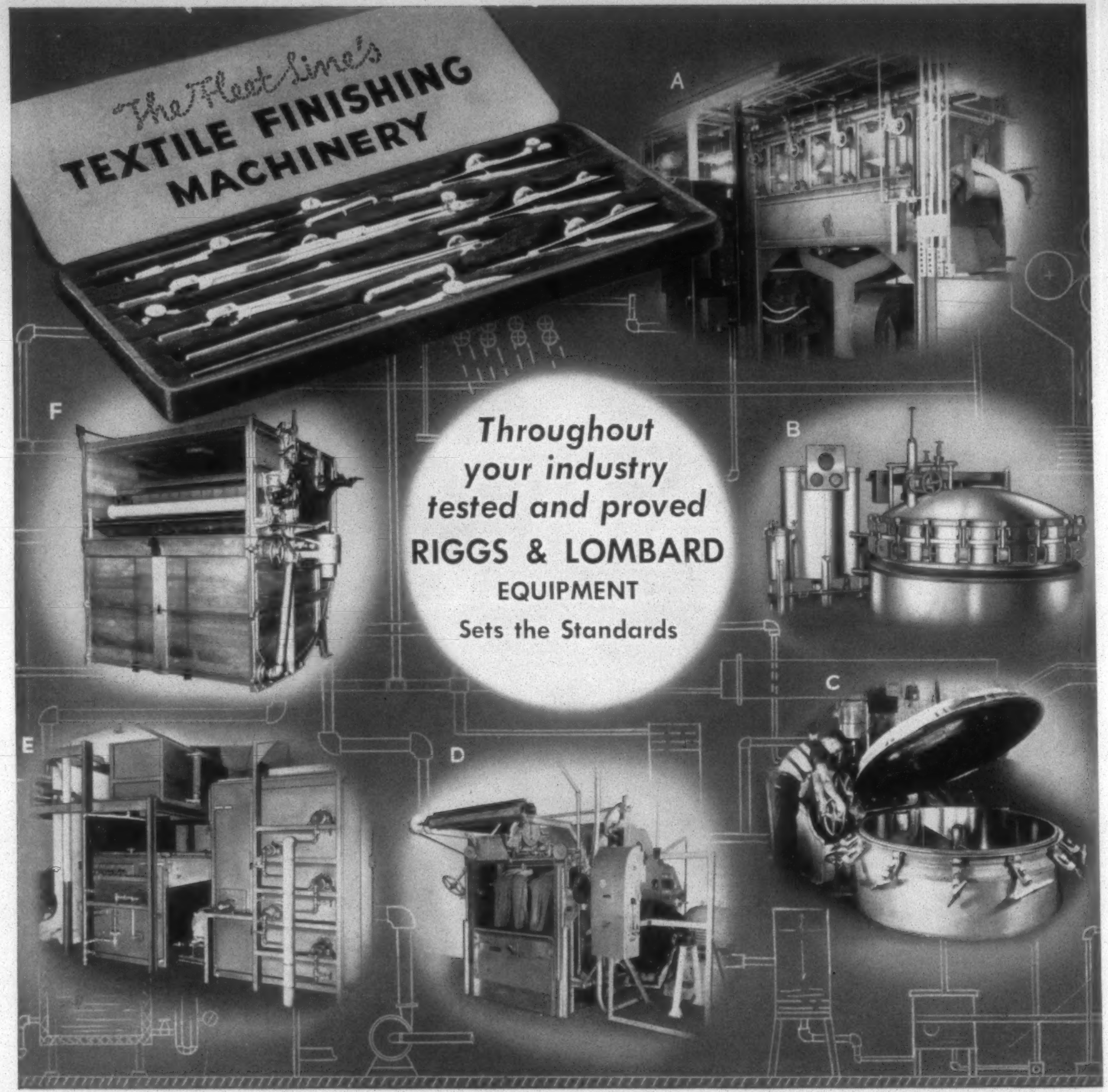
Ease of application and accuracy
Extreme levelness
Good shade control and penetration.

For further information on Algosol dyes or help with any dyeing or printing problem, write to our Technical Service Department or nearest sales office.

From Research to Reality

GENERAL DYESTUFF COMPANY
A SALES DIVISION OF
GENERAL ANILINE & FILM CORPORATION
435 HUDSON STREET • NEW YORK 14, NEW YORK
BOSTON • CHARLOTTE • CHATTANOOGA • CHICAGO • LOS ANGELES • NEW YORK • PHILADELPHIA • PORTLAND, ORE. • PROVIDENCE • SAN FRANCISCO • IN CANADA: CHEMICAL DEVELOPMENTS OF CANADA, LTD., MONTREAL

ALGOSOL DYES MANUFACTURED BY THE GENERAL ANILINE AND FILM CORPORATION ARE SOLD OUTSIDE THE UNITED STATES UNDER THE TRADEMARK "FENANTHRA".


The Fleet Line's
TEXTILE FINISHING MACHINERY
A
F
Throughout your industry tested and proved
RIGGS & LOMBARD
EQUIPMENT
Sets the Standards
B
C
E
D

In textile finishing plants everywhere, R & L equipment has for years been proved best by the only conclusive test — its record for producing high quality in consistently economical operation. Familiar with high standards because we set them, we also know your equipment needs and in our own field we answer them all. Check through the list to see how many ways we can serve you!

A. Continuous Crusher. B. Stainless Steel Hy-Temperature Stock Dyeing Machine. C. Stainless Steel Atmospheric Pressure Stock Dyeing Machine. D. Stainless Steel Fulling Mill. E. Derby Dry Cleaner. F. Dolly Cloth Washer.

TYPES OF R & L EQUIPMENT

Bleaching Equipment
- Caustic Washers
- Progressive Jigs
- Kettles
- Tanks

Carbonizing
- Cloth Carbonizing Ranges

Cleaners
- Derby Continuous Dry Cleaners

Compacting Machines

Crushers
- Continuous
- Semi-continuous

Dyeing Equipment
- Dye Becks
- Dye Kettles
  - Piece Dye Kettles
  - Rug Dye Kettles
  - Sample Dye Kettles
  - Stock Dye Kettles
    - Standard
    - Hy-Temperature
- Top Dyeing Machines

Dryers
- Tenter

Fulling Mills
- Cloth
- Endless Felt

Laboratory Machines

Padders

Pails

Parts

Poteyes

Pusher Mills

Reels

Rolls
- Miscellaneous
- Fulling Mill
  - Rubber Ring
  - Vulcanized Rubber
  - Wood Lagged

Washer,
- Wood
- Rubber
- Stainless Steel

Shrinkproofing Machines

Soaping
- Rope Soapers
- Soap Distributing Systems
- Soaping Machines,
  - Rope
  - Open Width

Special Machines

Squeeze Roll Extractors

Tanks
- Miscellaneous
- Size Mixing
- Storage

Trucks
- Cloth
- Dye
- Pin

Washers
- Cloth Washers (Batch & Continuous)
- Open Width
- Dolly
- Felt Washers, Endless

Wringers

Yarn Steamers

On modernization or new installations, consult an R & L "Engineers' Engineer". No obligation!

RIGGS AND LOMBARD INC.
FOOT OF SUFFOLK ST., LOWELL, MASS.

Agents: Paul A. Merriam Company, P.O. Box 86, Providence, R. I., Albert R. Breen, 80 E. Jackson Blvd., Chicago 4, Ill., Larry T. Nelson, 860 3rd St., Santa Monica, Cal., F. W. Warrington Co., 611 Johnston Bldg., Charlotte, N. C., Harold Zayotti, Jr., P.O. Box 125, Riverton, N. J., H. E. Mott Co., Limited, Brantford, Ontario, Canada.

FOSTER
WINDING MACHINES

Why They Require MINIMUM *Maintenance and Repairs*

Foster winding machines have always been noted for their sturdiness, fine craftsmanship and low maintenance and repair costs. For instance the cost of repairs on our Model 102 runs as low as $10.00 per year per 100 spindles.

This is no accident. It is a result of high standards of quality which are maintained throughout our factory. Every part is carefully inspected before it goes to our Assembly Department. Many parts, which directly affect the quality of the yarn or the winding, are tested for accuracy on instruments which have unvarying standards and are far more critical and precise than any human being.

We illustrate herewith a few examples of the high standards which assure long life and low maintenance for all Foster Winding Machines.

PROFILOMETER

This instrument, installed in our inspection department, measures irregularities in the finish or surface of metals in micro inches (a micro inch is a millionth of an inch). Here it is being used to test the inside surface of a tube which is part of a special attachment for our Model 102.

MICRO-PROJECTOR

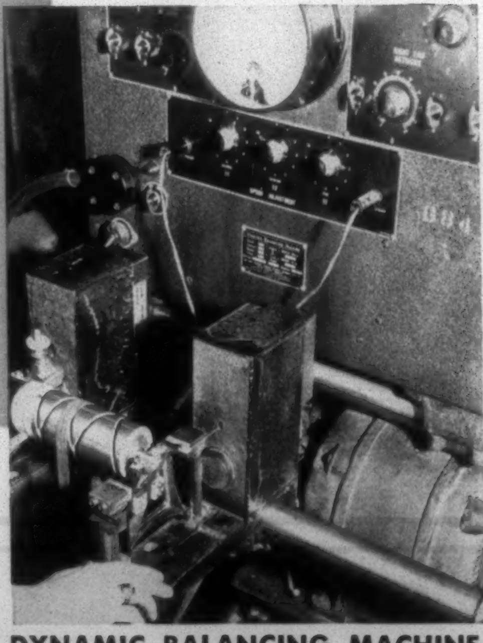
This instrument, also installed in our Inspection Department, magnifies an object 62½ times, revealing imperfections which are invisible to the naked eye. In this photograph it is silhouetting the teeth of a slub catcher blade.

DYNAMIC BALANCING MACHINE

This machine (in our Inspection Department) is electronically operated and is used principally to test the balance of the cams which are used in our drum winding machines. An unbalanced cam never gets by this machine and into the assembly line.

PROFILOMETER

MICRO-PROJECTOR



DYNAMIC BALANCING MACHINE

FOSTER MACHINE COMPANY

Westfield, Massachusetts, U. S. A.

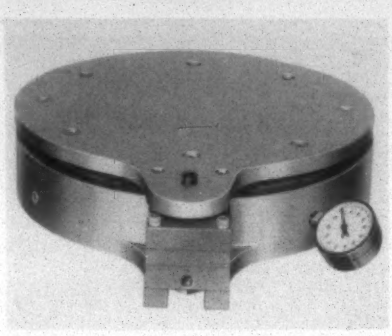
Southern Office: Johnston Bldg., Charlotte, N. C. • Canadian Representative: Ross Whitehead and Company Limited, 1475 Mountain St., Montreal, Quebec and 100 Dixie Plaza, Port Credit, Ont. • European Representative: Muschamp Textile Machinery Limited, Keb Lane Bardsley, Oldham, England

504-7

For the Textile Industry's Use

— NEW MACHINERY, EQUIPMENT AND SUPPLIES —

Weber Air-Mount



The Weber Air-Mount (Weber Instrument Co.)

The Weber Air-Mount, basically a simple air container of nylon reinforced neoprene and cast aluminum fitted with a pressure indicating gage, is said to be the means to an entirely new and efficient machine-mounting system. In use, a unit is placed under each support of a machine and connected to the factory air supply (100 p.s.i.). The machine is actually supported on columns of air with no rigid connection between it and the floor. Pressure-gage readings indicate machine weight supported by each unit making it possible to see if each support point is carrying a fair share of the load. Air-Mounts are designed to support and indicate loads from 500 to 12,000 lbs. each with 100 p.s.i. air supply. The units are light in weight and easily handled by one man in making installations. Need for special foundations are eliminated, reducing the cost of a large percentage of heavy machinery installations, the company reports. The cushions of air isolate the machine from outside vibration and minimize those which may develop within the machine itself. (Request Item No. A-1)

Brightening Agent

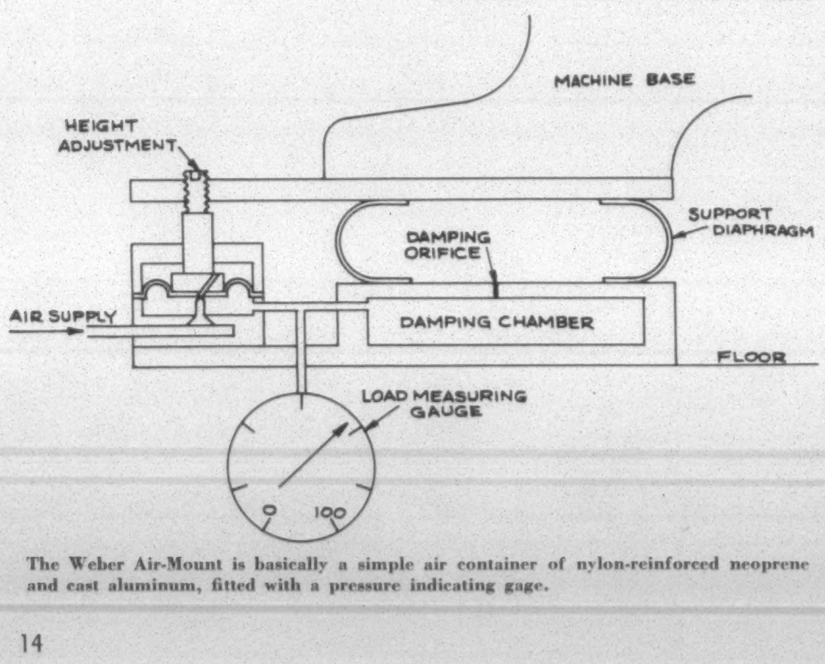
Leucophor PA, a new optical brightening agent for polyamide fibers, has been announced by Sandoz Inc. The product is reported to give a brilliant white which has good light fastness, very good wash fastness and good resistance to heat. White nylon fabrics do not yellow after washing, according to the company, if they have received a treatment with Leucophor PA. Polyamide fibers brightened with the substance may be fixed or pleated at the high temperatures normal to this process, without danger of the cloth yellowing. The product draws on polyamide fibers in an acetic acid bath. (Request Item No. A-2)

Size Control System

An air-operated control system that keeps size box levels from varying more than ¼" is being marketed by the Powers Regulator Co. Called the Powers bubbler system, it is based on the fact that a drop in size level can be pneumatically measured and controlled, regardless of rate of usage, temperature or foaming. In the system, the end of a Teflon-coated air line, or bubbler fitting, is placed approximately 3" below the size surface. Teflon coating is used to prevent caking.

A small volume of air at 15 p.s.i. escapes through the line, causing a slight bubbling action in the size. The pressure air in the line leading to the bubbler is also supplied to a Powers static pressure regulator. Should the level of the size drop slightly from its proper level, the pressure of the air at the tip of the bubbler fitting, 3" below the surface will be reduced. This is because less pressure is required to force air out of the fitting.

The change in back pressure is sensed at the static regulator. The regulator pneumatically adjusts the diaphragm of the valve on the size supply line, increasing the flow of size into the box. Once installed, the level of the size can be adjusted over a range of 1 to ½". (Request Item No. A-3)



The Weber Air-Mount is basically a simple air container of nylon-reinforced neoprene and cast aluminum, fitted with a pressure indicating gage.

Crimped Yarn

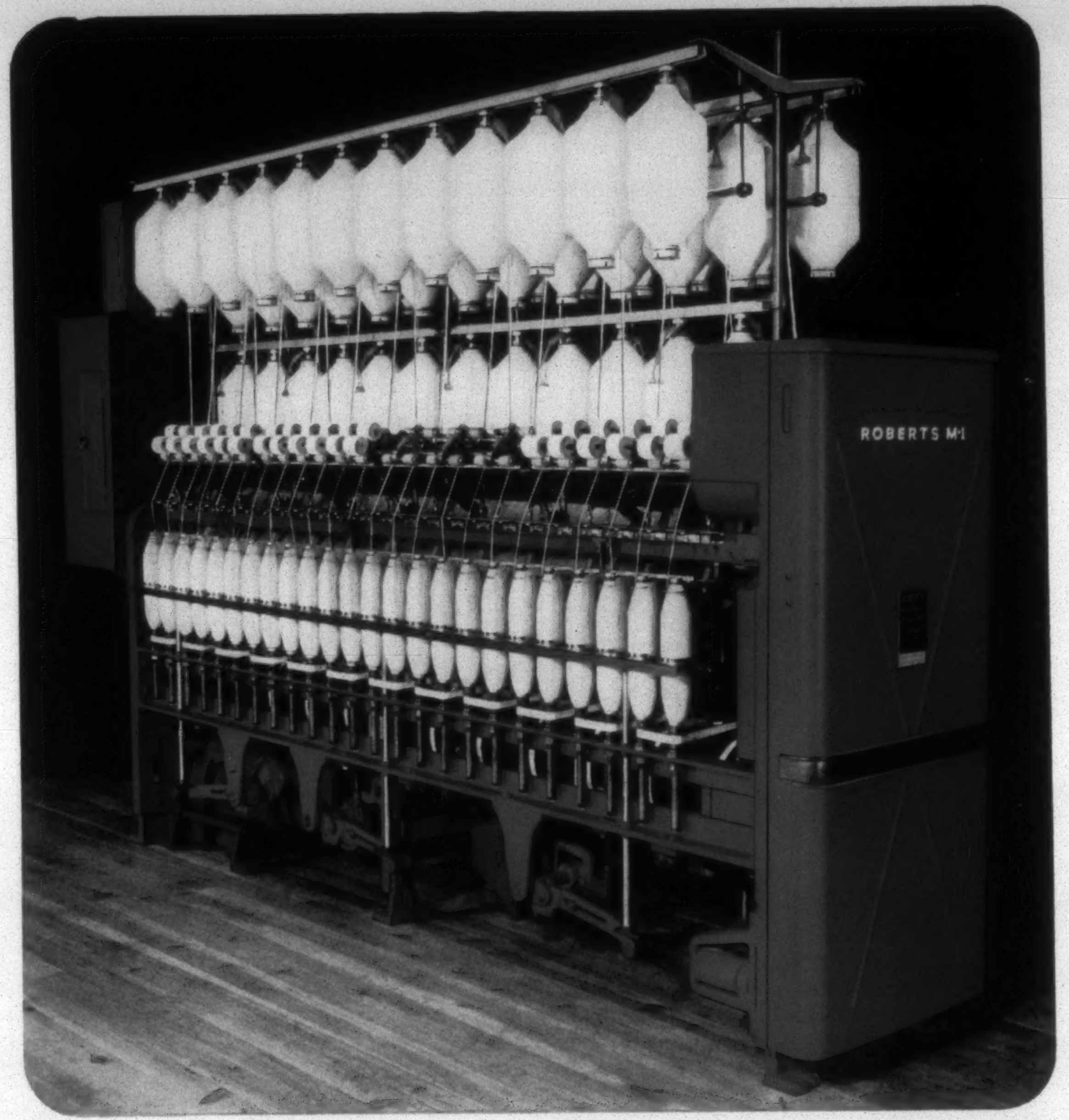
A new contnuous filament rayon yarn, said to be capable of providing a whole new range of textural effects, is being introduced by American Viscose Corp. The yarn, Avicron, has a permanent crimp and was developed to create a variety of textures at an economical price. It will have particular application to tufted products, including carpets and bedspreads. Because its crimp is activated in the normal bleaching and dyeing processes, tufts are locked securely to the base fabrics. An advantage of the yarn in carpets is the restoration of its original appearance by laundering. Each laundering re-activates the crimp resulting in an "as new" appearance. Since it is a continuous filament yarn, it has lint-free characteristics beneficial to the mill operation. Avicron will be offered to manufacturers in singles as well as 2-ply, 2,700-denier yarns. (Request Item No. A-4)

Lift-Trucks

A new line of cushion-tired lift trucks, designed for superior performance under exacting space, speed and operating conditions, has been announced by the Hyster Co. The new line includes 6,000, 7,000 and 8,000-lb. capacity models. The large Space Saver models feature a short turning radius, power steering as standard equipment, a high torque engine, excellent visibility both forward and to the rear, and the application of human engineering principles to the placement of controls and the seating of the operator.

An added feature which permits the operator to exercise positive control of both inching and braking through the same foot pedal is incorporated in the new Power Shift Hystamatic transmission. The transmission, available as an optional extra, is completely automatic and provides an infinite power ratio over the full range of vehicle speeds. The trucks are each said to have a long wheelbase and short over-all length.

The engine, a large bore, low-speed, L-



ROBERTS SPINNING

ALL NEW—ALL BALL BEARING ROBERTS M-1 SPINNING FRAME

MODERN IN DESIGN

Into the rugged simplicity of the Roberts M-1 chassis has been built all the ball bearing features needed to provide the smooth operation and productivity for today's and tomorrow's production goals. Standard features include:

- FLEXIBILITY FOR COTTON AND SYNTHETICS
- BALL BEARING TOP ROLL SUSPENSION
- BALLOON CONTROL ARRANGEMENT
- BUILT-IN UnitVac SUCTION CLEANING
- EXTRA CAPACITY SPINDLES
- FULL BALL BEARING HEAD
- 45 DEGREE ROLL STANDS
- LATCH-TYPE BOBBIN HOLDER AEROCREEL
- STEEL BASE RAILS, ROLL BEAMS, RING RAILS
- ADJUSTABLE DRAFT CONSTANT, 500 to 3000
- TURNKEY ERECTION AND STARTUP

PROVEN IN PERFORMANCE

New Roberts Spinning has been running in the mill since February 1956 and has proven itself not only most economical in initial cost but low in maintenance. One large user with more than 200 frames in continuous production reports that the new Roberts Spinning runs with higher front roll speeds, better yarn quality and substantially lower ends down than the several thousand frames of other makes in operation in their mills.

ROBERTS COMPANY
SANFORD, NORTH CAROLINA

head six having a 226 cubic inch displacement, is rated at 70 h.p. at the governed speed of 2,600 r.p.m. and 168 lb./ft. of torque at 1,200 r.p.m.

(Request Item No. A-5)

Gear Reducer

A shaft mounted gear reducer, said to eliminate need for motor bases, rails, supporting structures and flexible couplings, is now available from the Lovejoy Flexible Coupling Co. The reducer, according to the company, also eliminates alignment problems and makes possible infinite speed ratios through the use of variable speed pulleys or by changing sheaves, sprockets or prime mover speed. Proper belt tension between drive and driven unit is maintained by simple adjustment of the rod and turnbuckle. Some 18 models, including single and double reduction types, can be supplied from stock. Single reduction types are 98% efficient and afford 4.5:1 speed ratio (nominal). Double reduction types are 96% efficient and afford 14.7:1 speed ratio (nominal). Horsepowers range from fractional to 120, output speeds from 8 to 425 r.p.m.

The reducer is installed direct to driven shaft and can be mounted vertically or at any angle. Hollow shaft bores range from 1-7/16" to 5-15/16", with bushings available to accommodate slightly undersized driven shafts. Slightly oversized driven shafts can be necked down or can be accommodated in the same manner as undersized by using a larger reducer. For applications where protection against reversal of direction is required, a roller backstop can be furnished. This guarantees complete safety since the backstop allows only 1-way movement of the driven shaft—whether the power is on or off.

(Request Item No. A-6)

By-Pass Valve

Watts Regulator Co. has announced a new, moderately-priced, all-bronze, high-capacity, automatic by-pass valve for regulating liquid pressure as supplied by pressure pumps. In operation, the valve is set to open at the required pressure; when the system demand is reduced, the excess liquid is by-passed back to the supply. Models are available with fixed setting for relief-to-atmosphere applications. The valve is available in 2 sizes, ¾" and 1", for pressures from 10 to 250 p.s.i. Designed for pop action, it has a high-capacity characteristic; for example, the ¾" size, set at 100 p.s.i., will by-pass 42 g.p.m.

(Request Item No. A-7)

New Spotter

Laurel Soap Mfg. Co. Inc., producer of soaps, oils and chemicals for textiles, has announced the development and availability of Laurel Spotter AF-2. This 100% emulsifiable oil-type product is used on synthetic as well as natural fabrics for the removal of oil and grease spots. It is said to be extremely efficient, having minimum adverse effect on dyeing and finishing operations. Its action results by combining with the oil and grease in the spots, forming an emulsifiable combination. This is readily removed in normal scouring and boiling-off processes. Free samples of the spotter are available.

(Request Item No. A-8)

Mast Trucks

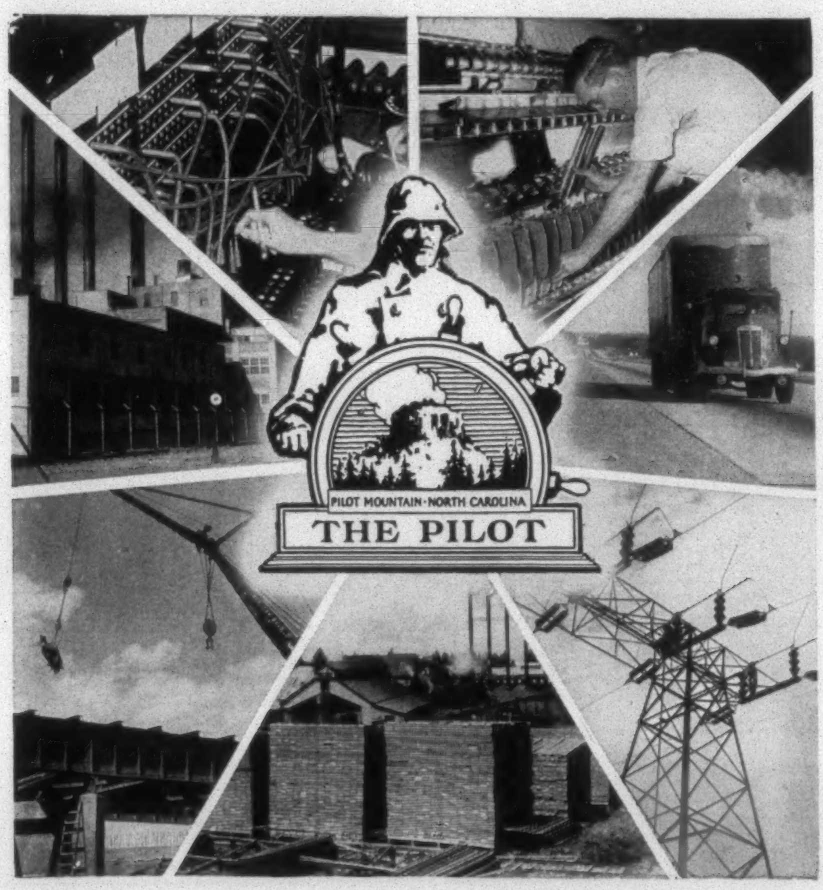
Four new telescoping mast trucks have been added to the American Safeway portable elevating truck line of The American Pulley Co. These trucks clear standard doorways but lift 1,000-lb. loads as high as 10' 10". Power for lifting is supplied by means of a 12-volt battery-operated hydraulic system. The standard model is supplied with 26" adjustable forks. Other fork lengths, drum-stacking devices, crane booms, rams or platforms are also available.

(Request Item No. A-9)

Motor-Speed Control Unit

A new motor-speed control package, said to be comparable in efficiency to variable-speed drives with d.c. motors, is being produced by Fidelity Instrument Corp. The new Fincor motor-control package includes an a.c. motor, allowing use of normal 3-phase, 60-cycle current without rectification.

The package is furnished in 1/6, ¼, 1/3 and ½ h.p. sizes for operation on 220



**The Pilot works with management —
building business by protecting workers!**

From the telephone switchboard to the textile mill the protective arms of The Pilot cover all phases of Southern industry. Individually tailored group insurance programs stimulate profits and production by improving employee relations, reducing labor turnover, and attracting competent help.

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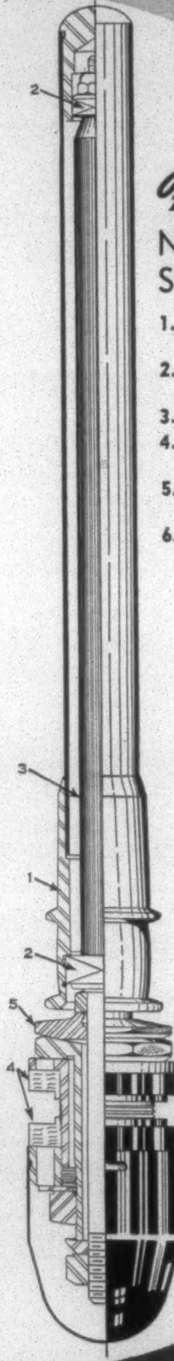
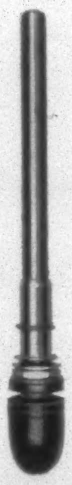
SACO-LOWELL SPINDLES help you make more money!



For Warp

NEW ERA SPINDLES

1. **Doubles the conventional load carrying capacity.**
2. **Extends lubricating cycles from two weeks to 3-5 years.**
3. **Eliminates yarn spoilage by oil.**
4. **Increases tape life from 3 to 5 times.**
5. **Eliminates vibration that causes weak uneven yarn.**
6. **Reduces power consumption as much as 25%.**



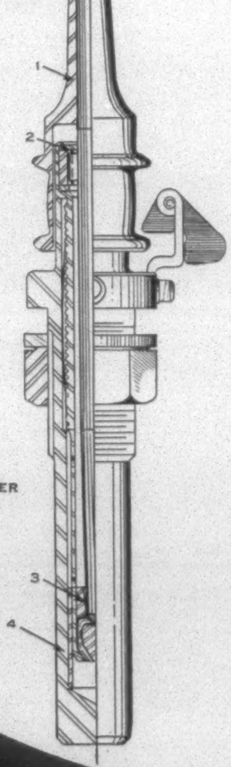
1—REVOLVING MEMBER
2—BALL BEARINGS
3—STATIONARY CENTER SHAFT
4—RUBBER MOUNTING
5—PLUMBING DEVICE

U.S. Pat No's
2,241,140;
2,289,903;
2,304,370;
2,497,834.

For Filling

TOP SUSPENSION SPINDLES

1. **2½% to 7½% more yarn on the bobbin due to tighter wind.**
2. **Anti-friction roller bearings last longer and require less oil.**
3. **Save power due to smoother operation.**
4. **Save labor costs with longer lubrication cycles.**
5. **Increase tape life and reduce spoilage of yarn due to oil stains.**
6. **Uniform tension at all stages of the doff improves yarn quality.**



1—REVOLVING MEMBER
2—ROLLER BEARING BOLSTER
3—STEP BEARING
4—BASE

THE END RESULTS:

1. **HIGHER SPEEDS WITH GREATER PRODUCTION.**
2. **MORE YARN ON THE PACKAGE.**
3. **HIGHER FRAME EFFICIENCY.**

Mean $$$ in Profit

IT'S TIME FOR YOU TO ORDER SACO-LOWELL SPINDLES!

SACO-LOWELL SHOPS

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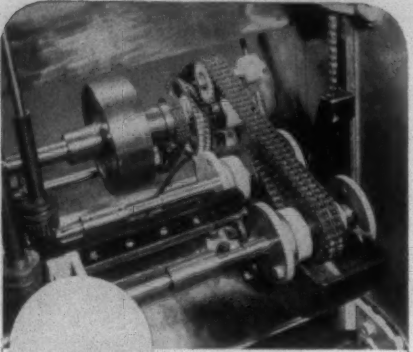
Shops at BIDDEFORD & SACO, MAINE; SANFORD, N.C.; EASLEY, S.C. Sales Offices: CHARLOTTE · GREENSBORO · GREENVILLE · ATLANTA



The Famous Precision Patented Compound and Chain Drive

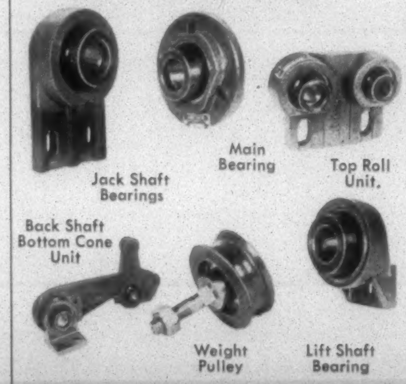
floating power for Roving Frames

Every gear, sleeve, and bearing rotates in the same direction as the jack shaft. Positive one-way power transmission starts or stops bobbins and spindles simultaneously.

- **Ends Stay Put regardless of starting or stopping speeds**
- **No Lag**
- **No Backlash**
- **No Breakage**
- **No Stretched Places**
- **and No Oil Spots**
  Completely sealed lubrication
- **The Result**

The Precision Compound and Chain Drives produce bobbins of uniform size and weight with equal tension from the first to the last layer of yarn. The Precision Compound will save you many times its cost in producing better roving—and in fewer seconds and better running work in subsequent processes.

- **Roving Bearings for all makes and models**



Precision Gear & Machine Co.
2001 N. Tryon St. • ED 4-6857
Charlotte 1, North Carolina

volts. Speed range can be provided to fit user's specific needs. All speed-control problems encountered with motors of these fractional horsepower sizes may be taken care of by suitable modifications of standard models. Motors are mounted on N.E.M.A. Size 56 frames and can be interchanged.

Complete package includes motor, frame, a built-in tachometer to sense motor speed and a magnetic-amplifier speed controller. The speed set by the control potentiometer is said to be reached quickly without hunting. There are no commutators, brushes or electronic tubes involved to give trouble. Periodic lubrication of the ball bearings is the only maintenance required. The unit is essentially a constant-torque motor drive, with power output directly proportional to motor speed. (Request Item No. A-10)

Load Switch

The development of a simplified standard load switch to control overload conditions of both fractional and multiple horsepower electric motors has been announced by J. I. C. Electric Co. Operating on 110-volt, 60-cycle current, the instrument uses no vacuum tubes or complex electronic devices, requires only two adjustments to set up and is contained in a compact standard cabinet 12" x 14" x 6".

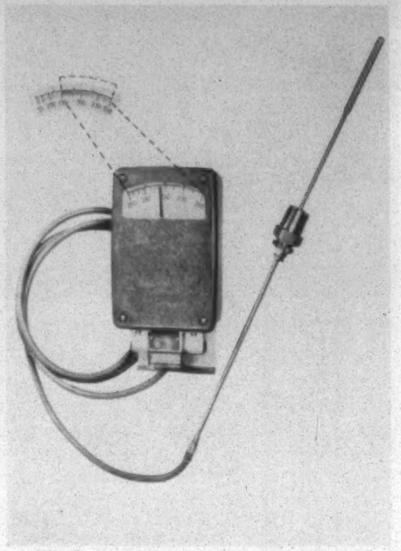
A single unit handling all horsepower ranges can be readily installed in any electrical circuit, and adjusted so that any predetermined overload will operate through the load switch to activate visual or audio signals, to open and close contacts, to stop motor, stop feed, reverse feed, etc. The unit is produced in 4 standard models, including single overload relay, single overload relay with timer, a double overload relay on which one gives warning of limited overload, and the second stops the machine on excessive overload, plus the same unit with timer. (Request Item No. A-11)

Bronze Powders

A complete line of bronze powders for textile printing is now being offered by Hummel Chemical Co. Three gold powders are available for roller process textile printing. The colors are said to be non-tarnishing and extra brilliant. The powders are manufactured by Venus Bronze and Aluminumpulver of Nurnberg, Germany. Samples and further information are available on request. (Request Item No. A-12)

Temperature Transmitter

The Foxboro Co. has announced the development of a compact, indicating temperature transmitter for pneumatic transmission of temperature measurement in ranges from 100° F. to 600° F., with spans of 100° F. and 200° F. With the upper, more sensitive portion of the conventional vapor pressure thermal curve expanded over a $4\frac{1}{2}''$ scale, the transmitter provides as much as 30 to 50% greater sensitivity, according to the company. Use of the expanded scale is said to increase output pressure change per degree temperature change, providing increased receiver control action and excellent readability at both the transmitter and the receiver.



Indicating transmitter for process temperatures (The Foxboro Co.)

Indication at point of measurement is accomplished by a red pointer and black-on-white scale markings with widening divisions across the upper portion of range, providing visibility from as far away as 20'.

The fast-responding vapor-pressure thermal-system includes a small bulb, an 18" bendable bulb extension, adjustable union connection and polyvinyl plastic-covered bronze tubing over copper capillary. The Class II terminal system requires no ambient temperature compensation and may be replaced easily for range change. Liquid or gas filled systems are available for temperatures above 600° F. and below 100° F. (Request Item No. A-13)

New Direct Dye

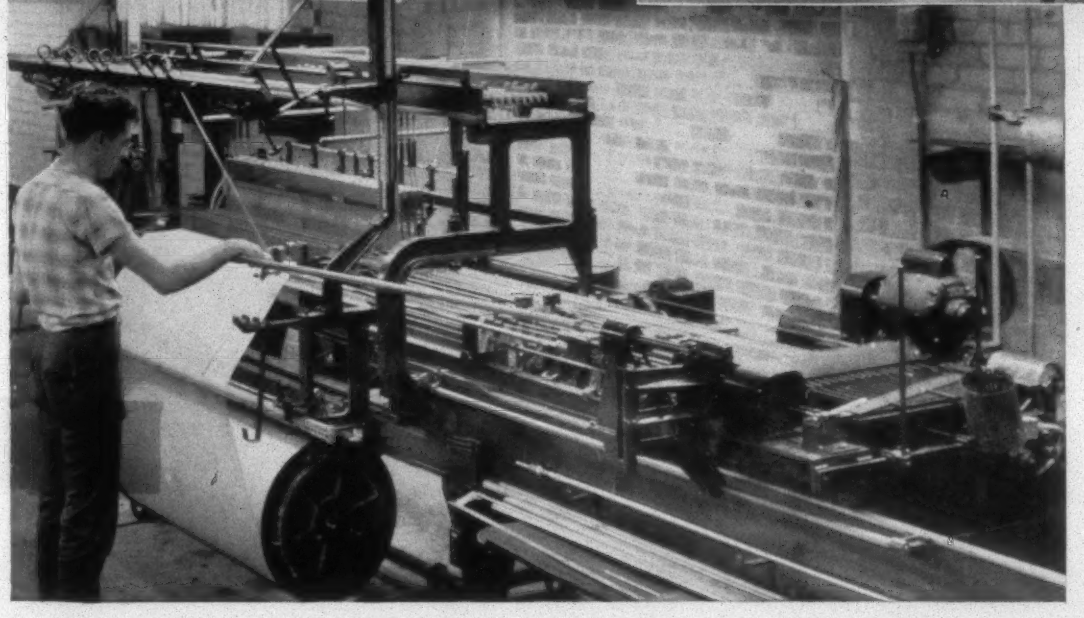
A new type of direct dye has been introduced by Sandoz Inc. Lumicrease/Cuprofix Grey 3LR Pat. is said to possess outstanding solubility, and is therefore particularly well suited for appliction in pad dyeing. It is the second gray recently added to the Sandoz line of Lumicrease colors. Fastness to light, water and perspiration are reported as characteristics. According to the company, its high fastness to light and satisfactory cotton and rayon union recommend it for automotive and decorative fabric applications. (Request Item No. A-14)

Diaphragm Operated Valves

Sinclair-Collins Valve Co. has announced a complete line of diaphragm-operated valves, designed for instrument-actuated control of temperature, pressure or flow. The valves feature exclusive V-port design, said to afford extremely precise modulation of flow because of its tapered variable port area, and are offered in both direct and reverse acting types.

Intended for steam, air, liquid or gas

IF YOU ARE ENTERING YOUR WARPS LIKE THIS



WE SUGGEST YOU LOOK INTO THE

BARBER-COLMAN WARP DRAWING MACHINE

With this machine, the time-eating task of drawing-in is speeded up tremendously. A power-driven needle, running at 127 to 230 strokes per minute (depending on the number of weaving elements to be entered), draws each thread in succession through the correct selection of drop wire, heddle, and reed dent. This correct selection is made accurately *and automatically* for each pick by a sequence of mechanical actions controlled by a pattern strip punched in accordance with the designer's draft. Very substantial reductions of drawing-in costs are possible, particularly on patterned goods such as stripes, plaids, and fancy weaves. This *modern method* of replacing warps has enabled many mills, both large and small, to meet the ever-increasing demands for a greater variety of patterns. *Your Barber-Colman representative is qualified to advise you on possibilities in your mill.*

AUTOMATIC SPOOLERS • SUPER-SPEED WARPERS • WARP TYING MACHINES • WARP DRAWING MACHINES

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P. O. Box No. 63
Rio de Janeiro, Brazil

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Higashi-ku,
Osaka, Japan

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Associated Agencies
(M'cr.) Ltd.
Piccadilly House
11 Piccadilly
Manchester 1, England

PAKISTAN
Associated Agencies
(M'cr.) Ltd.
27 Kothari Building
Napier Road
Karachi 2, Pakistan

IRREGULAR PAGINATION

service up to 250 p.s.i., the valves are available in sizes ranging from 1/16 through 2" N.P.T. (directing-acting) and ⅛ through 2" N.P.T. (reverse-acting.). Instrument air supply pressure requirements are from 2-½ to 12 p.s.i. for the direct-acting types to 4 to 13 p.s.i. for reverse-acting valves. Spring tension is adjustable.

Cast valve bodies are of Navy M bronze; yokes and tops are of valve bronze. Corrosion-resistant K-Monel stem and 18-8 stainless spring are said to assure trouble-free service. According to the manufacturer, the cast Stellite V-port disc and Stellite-faced K-Monel seat eliminate wire drawing or cutting, even in severest service. Stem packing is chevron Teflon asbestos. (Request Item No. A-15)

Pillow Block

A self-aligning pillow block has been developed by Electro-Nite Carbon Co. It features a carbon-graphite insert and is designed to operate dry or submerged in any fluid that will not corrode the cadmium-plated steel housing. Since the low coefficient of friction is supplied by the graphite, not by an additive, these materials retain their frictional characteristics at very low temperatures or up to 700° F. in air and much higher in neutral or reducing atmospheres. The compressive strength ranges from 12,000 p.s.i. to 35,000 p.s.i.

Because of the chemical inertness of the carbon-graphite materials, they will not contaminate any process or be affected by the process. They will not swell or distort in the presence of liquids or when heated and cooled. (Request Item No. A-16)

Elevating Forks

Elevating forks for attachment to low-mast lift trucks have been developed by Little Giant Products Inc. The forks (EF-4) increase maximum lifting height and retain low collapsed height. They are reported to be especially suitable for work in box cars, truck interiors, and in warehouses with high headroom and low doorways where they can furnish the extra height to utilize the warehouse to its maximum capacity.

The fork attachment becomes an integral part of the lift truck. Just a few inches or as much as 5' can be added by it. The forks on the lift truck are merely transferred from the carriage on the truck to the carriage on the elevating forks. The EF-4 comes in 4 models with capacities ranging from 2,000 to 10,000 lbs. Standard units add 3' extra stacking height or less and a special unit any specific height up to 5'. The unit was developed by Kughler Development Corp. and exclusive manufacturing rights are held by Little Giant. (Request Item No. A-17)

New "S" Section Sheave

A new "S" section Vari-Pitch sheave, which permits wider speed changes and increased horsepower transmitting capacity, has been announced by Allis-Chalmers Mfg. Co.

A range of 5.5" minimum to 120" maximum is reported for the new single-groove "S" section. It complements the present wide range "Q" and "R" section Vari-Pitch and companion sheave line. Companion sheaves with Magic-Grip bushings in sizes from 8.0 to 24.0" pitch diameter are available along with "S" section belts in lengths from 54 to 150 inches. The "S" section belt has a maximum of 2-1/16" which is wider than "Q" or "R" section units. The new section sheave requires no more mounting space than is needed for the smaller "R" section 1-groove sheave. (Request Item No. A-18)

Dow Reduces Prices On Chelating Agents

Price reductions on its Versene chelating agents were made January 1 by The Dow Chemical Co., Midland, Mich. Reductions on certain chelating agents were as much as 20%. The lower prices are expected to accelerate the rapidly growing interest in Versene chelating agents which perform a variety of metal ion control functions for the textile industry. Concurrently with the price redutions, Dow announced increased production capacity at its Freeport, Tex., plant and indicated that additional capacity is anticipated.

NON-FLUID OIL
TRADE MARK REGISTERED

FOR MORE AND BETTER TWIST

There is good reason why 7 out of 10 textile mills use white NON-FLUID OIL for ring lubrication. Because, however applied, it lubricates constantly and dependably, insuring longest life for rings and travelers.

NON-FLUID OIL stays on rings and off rails. This means less "black" yarn and fewer broken ends, resulting in increased production of perfect twist.

White NON-FLUID OIL can be applied in exactly the same way as ring oils or greases. It is especially suitable for centralized method of application because it does not disintegrate under pressure. Rings and travelers are supplied throughout the entire doff with a film of highest quality lubricant.

To see for yourself why NON-FLUID OIL is the perfect lubricant, send for a free sample and Bulletin T-16. A fair trial will convince you.

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Providence, R. I.
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NON-FLUID OIL is not the name of a general class of lubricants, but is a specific product of our manufacture. So-called grease imitations of NON-FLUID OIL often prove dangerous and costly to use.

For the Mill Bookshelf

Corrugated Boxes

A 24-page booklet titled "How To Ship More Economically in Corrugated Boxes" has been published by Hinde & Dauch. It offers information on the planning of the shipping department and on economy considerations in the packing, sealing, warehousing and shipment of corrugated boxes. It also includes advice on the designing, testing and storing of product packages. Individual case histories showing cost savings through the use of specific corrugated designs are included.

(Request Item No. A-19)

Casters And Wheels

Faultless Caster Corp. has announced a new 8-page catalog devoted exclusively to casters and wheels designed for the textile industry. Catalog No. 8157 introduces the company's new semi-steel grease sealed thread guard wheels. These wheels feature new style deep drawn thread guards which are said to assure freedom from snagged threads that put ordinary castered trucks out of service. They are also said to eliminate the hazard of dripping grease. Wheels are arranged according to type and size.

(Request Item No. A-20)

Equipment Manual

A pocket-size equipment manual has been issued by Precision Equipment Co. as an aid to executive planning. It describes and illustrates the newest products and inventions for both plant and office. Among the items described in the manual are the combination cabinet with hidden vault, new Wonder Air Tank and the 4-in-1 workshop, a tool that punches, shears, forms and rivets. (Request Item No. A-21)

Dual-Circuit Mill Regulator

Reliance Electric and Engineering Co. is offering a 6-page, 2-color folder, Bulletin K-2503, describing its dual-circuit Reliance VSMR mill regulator, a fail-safe electronic regulator unit providing precise regulation of line speed, voltage and tension for all continuous-process industries. Drawings and photos are used to explain how, in the event of tube failure in one-half of the panel, the other half instantly and automatically carries the entire load.

(Request Item No. A-22)

Twisting And Winding

Universal Winding Co. recently issued No. 124 of a series of 4-page folders titled "Getting the Most From Twisting." The series covers improvements in twisting equipment and new ideas in the twisting operation. The latest booklet deals with how to obtain good tension control on a ring twister and the use of bobbin spools for sewing thread.

(Request Item No. A-23)

Compressed Air Dryers

A 12-page bulletin describing new models of heatless, self-activating zero-dew-point dryers is being offered by Van Products Co. The compressed air dryers described are designed to prevent moisture fouling of instruments, controls, testers, circuits, chemicals, gases, finishes, solutions, etc. They have capacities from 1 to 5,400 c.f.m. and from 100 to 3,000 p.s.i.

(Request Item No. A-24)

Electrical Controls

Simple all-purpose electrical controls, known as Versatrols and said to be suitable for use with virtually any detectable variable, are described in a 12-page bulletin recently issued by Assembly Products Inc. Bulletin 106 explains applications of the most common Versatrol circuits, both automatic and limit, including the Load Sentry overload control. The units are built around contact meter-relays of what is said to be almost infinitely variable sensitivities, operating directly from any electrical signal. Trip points are adjustable and there is continuous signal indication.

(Request Item No. A-25)

Forged Steel Unions

Clayton Mark & Co., manufacturer of forged steel unions, conduit and tubing, and water well supplies, has recently published a brochure entitled "What Makes a Good Union." The 16-page color booklet outlines features of forged steel unions and describes the fundamental qualities of a good union as including pressure tightness, ease of installation, interchangeability and ability to withstand repeated makes and breaks. (Request Item No. A-26)

Industrial Heater

Publication of a new 26-page product bulletin describing the construction, application and performance features of the Herman Nelson Industrial Heater has been announced by American Air Filter Co. The bulletin, No. 750A, explains the operation of the heating and ventilating unit that is designed to meet industrial requirements, both for make-up air and for plant heat load. Six pages are devoted to explanations of applications and arrangements of the unit, such as horizontal, vertical upright, vertical inverted and "L" shaped; fan sections; coil sections; filter sections; damper sections; bases; wall intakes; and humidifiers. Performance graphs and charts pertaining to steam capacities, air flow resistance and other air flow data are included. Also listed are dimension diagrams and tables for all models and arrangements of the heater. A special section deals with diagrams and dimensions of the Roll-O-Vent adaption to the industrial heater. The automatic disposal air filter is offered for the first time with the unit. A discussion of the selection and application of steam coils, hot water coils, unit size selection, useful definitions and formulas for use in computing selections, and suggested specifications and materials of construction are also included. (Request Item No. A-27)

Silicate Detergents

A folder describing industrial cleaning with Metso silicate detergents has been released by Philadelphia Quartz Co., manufacturer of soluble silicates. Seven Metso detergents are described for specific cleaning requirements. A chart offers suggested concentrations and general directions for more than 25 cleaning operations.

(Request Item No. A-28)

Materials Handling

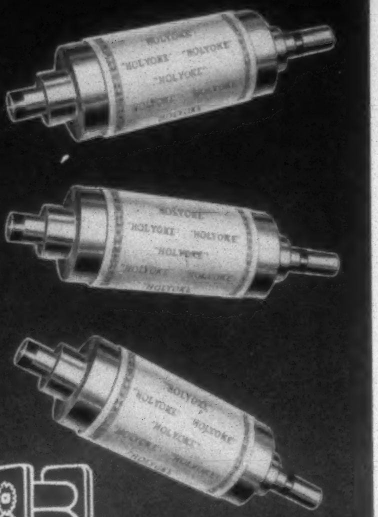
A folder entitled "Pertinent Facts on Materials Handling" has been issued by the Towmotor Corp. The folder contains profitable ideas for companies experiencing specific materials handling problems, or for those who are looking for ways to reduce man-hour costs and improve over-all plant efficiency. The illustrated booklet is filled with timely engineering information and specific solutions to handling problems involving different types of loads. The folder also describes the complete Towmotor-Gerlinger line of handling equipment, including fork lift trucks and material carriers.

(Request Item No. A-29)

Sliding Gate Valves And O.P.W. Tank Gages

Three new bulletins have been published by Jordan Industrial Sales Division of O.P.W. Corp. Bulletin J-160 gives complete information of O.P.W.-Jordan sliding gate pressure reducing valves, designed to give dead-end shut-off on all fluid services. The 6-page bulletin describes valve features, design improvements and methods of operation. Included are flow capacity charts, dimensional drawings, control ranges and material specifications. Bulletin J-180 describes O.P.W.-Jordan's sliding gate temperature control valves. The redesigned, strengthened thermal system is featured. Sizing charts, dimensional drawings, control ranges, material specifications and an accessory items list are included. Bulletin F-40 describes the

"HOLYOKE"
EMBOSSING
ROLLS



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1863

Do You Have an Embossing Problem?

We may not know *all* the answers, but we *have* solved the problems of mills producing designs of all types, both fine and coarse. We can supply the embossing roll to meet the delivery schedule of your engraved roll. Tell us the size of your engraved roll, the pattern and material you are embossing, and we will advise the type of embossing roll to use.

"HOLYOKE" Embossing Rolls hold their pattern a long time. They are easy to "run in" and that means less machine down-time.

Correspondence Invited

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COMPANY
CALENDER and EMBOSSING ROLLS
for the PAPER and TEXTILE INDUSTRIES
WATER FILTRATION EQUIPMENT
HOLYOKE, MASSACHUSETTS

company's direct-reading tank gages. The gages are recommended for liquid storage tanks to 40' in height. Description of the gage features and material specifications are featured in the 2-page bulletin.

(Request Item No. A-30)

Fork Trucks

Potential purchasers of electric fork trucks can now evaluate various types and models through the use of a comparison chart available from Lewis-Shepard Products Inc. The chart enables users to survey, simultaneously, the operating, design and maintenance characteristics of three different types of trucks by filling in appropriate categories. After noting the various specifications of each truck, the purchaser then can weigh the features and systematically select the proper unit for his requirements. The company is also offering an 8-page, 2-color booklet giving tips on operating fork lift trucks. The brochure is fully illustrated with a series of cartoon-type drawings. It serves as a guide in setting up a fork lift truck driver training course.

(Request Item No. A-31)

Lift Truck Maintenance

A preventative maintenance service manual for lift truck owners and operators has been prepared by Towmotor Corp. The pocket-sized booklet offers a 32-point check list which helps avoid unnecessary repairs and aids in spotting trouble before it starts. The comprehensive preventive maintenance program outlined in the booklet provides in-plant servicing by factory-trained personnel and includes up-to-the-minute condition reports designed to keep equipment operating at peak efficiency. It also describes Towmotor parts service, emergency service and lift truck re-conditioning plans for reworking older machines.

(Request Item No. A-32)

Adjustable Speed Drive

Louis Allis Co. has published a 12-page bulletin, No. 2000, on the Select-A-Spede adjustable speed drive. The unit, available from 5 to 200 h.p., is a variable voltage d.c. drive that uses a.c. as its power source. Textile applications are discussed and illustrated in the bulletin. Ease of installation of the unit is stressed as well as optional features for special applications and improvements in savings that can be effected by use of the drive.

(Request Item No. A-33)

Flexible Couplings

Availability of an 8-page, 2-color bulletin describing how to select new Sure-Flex couplings has been announced by T. B. Wood's Sons Co. The couplings are said to be suited to more than 150 different service applications. Each consists of two flanges and a 2-piece rubber sleeve, which lock together without clamps or screws. Designed to withstand all combinations of misalignment and end float, the couplings will absorb up to 15° of torsional shock. The booklet has 5 tables which short-cut the usual engineering calculations and give the right answer in a matter of seconds, taking into consideration the type of driver, horsepower and r.p.m., as well as the specific application.

(Request Item No. A-34)

Laminated Plastics

A detailed summary of application and engineering data on laminated plastics and vulcanized fiber is furnished in a new catalog published by Taylor Fibre Co. The 8-page, 2-color catalog provides photos, descriptions and data tables to aid in selecting and applying these basic materials for electrical and mechanical components.

(Request Item No. A-35)

Dynel Acrylic Fiber

The textile fibers department of Union Carbide Chemicals Co., a division of Union Carbide Corp., has published a new booklet on Dynel. The 16-page, illustrated booklet, "The Story of Dynel," includes information on how the fiber is made, its properties, use and care in apparel, home furnishings and industrial fabrics.

(Request Item No. A-36)

Cotton Research

A review of current and recent research on cotton by the U. S. Department of Agriculture at the Southern Regional Research Laboratory is contained in a recent paper by Mason DuPre' Jr., Ralph M. Persell and Evald L. Skau, which is being offered free of charge by the laboratory. Progress in the development and improvement of testing methods and instruments to measure the physical properties of cotton fibers, yarns and fabrics are discussed. The research program of the Southern Laboratory is geared not only to improving the general level of quality and lowering the cost of cotton products, but also to transforming cotton into entirely new chemical fibers designed to have special properties for specific uses. Progress in the development and improvement of testing methods and instruments to measure the physical properties of cotton fibers, yarns and fabrics are discussed. Development of mechanical processing machinery is another area of research in which major emphasis is on a new and better system for cleaning cotton at the mill, of which the S.R.R.L. opener-cleaner and the carding cleaner are units. Through various chemical treatments, cotton fabrics have been made flame resistant, given greater resistance to weathering, or made semi-elastic through mercerization without tension. These and other improvements are outlined in the paper. Copies can be obtained from the Southern Utilization Research and Development Division, P. O. Box 7307, New Orleans 19, La.

WATSON & DESMOND

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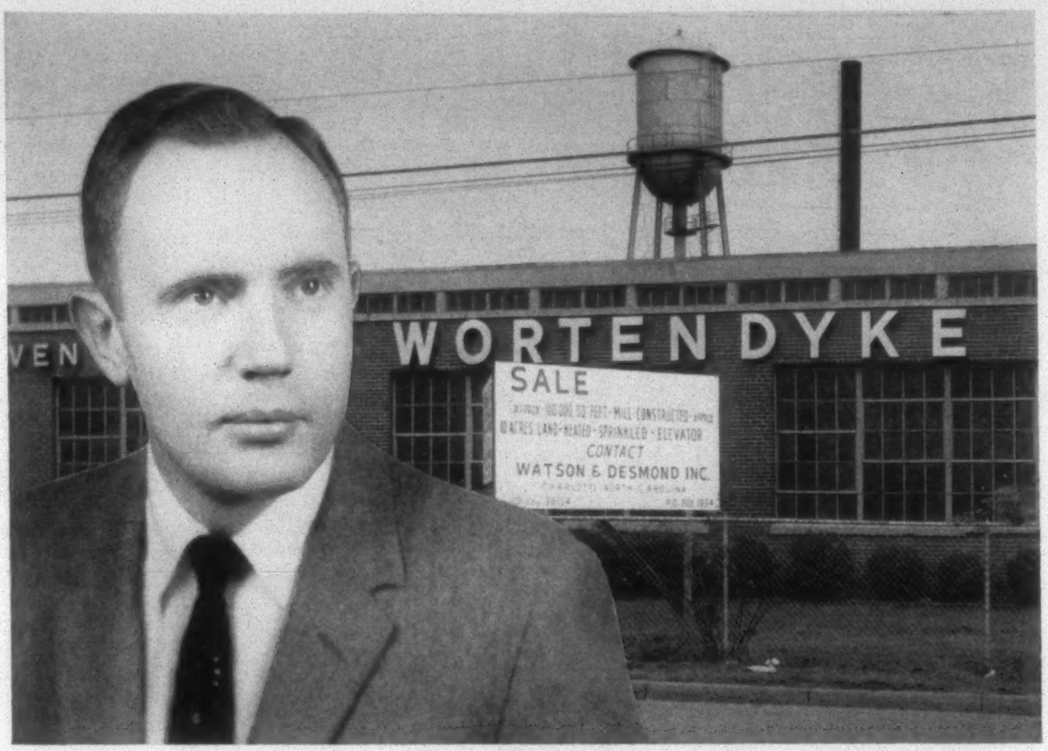
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Sandoz Inc. Acquires Fine Colors Company

Dr. J. W. Ackerman

Max Gossweiler

Sandoz Inc. has acquired the stock of Fine Colors Co. of Paterson, N. J., manufacturer of pigment colors.

The acquisition of a dry color plant by Sandoz complements its production of dyestuffs, textile chemicals and pharmaceuticals. Sandoz has been active in the field of pigment colors for the past two years. Fine Colors will continue to operate unchanged as a division of Sandoz, and extended research and testing facilities are planned for further improvement of pigments used in textile printing. Sandoz, noted in the fields of coal tar dyestuffs, modern chemical specialties for textiles and ethical pharmaceutical specialties, was established in 1919 as an independent American company by Sandoz Ltd., Basle, Switzerland, originally founded in 1886. The company has plants in Hanover, Fair Lawn and Toms River, N. J., as well as an interest in Cincinnati, Ohio. Although pigment colors is a comparatively new venture for Sandoz in the U. S., its Swiss counterpart has been a leading European supplier in this field for many years.

According to Sandoz, all personnel of Fine Colors will be retained. Production will continue under the direct supervision of Dr. John W. Ackerman, who has been president of the company for the past 16 years. Sales and service continues under the direction of Max Grossweiler, manager of the division.

Scott Testers (Southern) Inc. To Serve Southeastern Area

Scott Testers Inc., Providence, R. I., has announced the appointment of Scott Testers (Southern) Inc. as representative for both sales engineering and equipment servicing for the entire Southeastern area comprising Alabama, Georgia, Kentucky, North Carolina, South Carolina, Tennessee and Virginia. Scott Testers (Southern) Inc. maintains sales offices and complete servicing center consisting of machine shop and comprehensive parts stock at Spartanburg, S. C., under the direction of John E. Hargreaves, general manager. The extension of its sales and servicing responsibility to include the entire area follows the decision of John M. Klinck to retire from active business on Dec. 31, 1957, after a relationship as Scott Testers representative in Georgia, North Carolina and South Carolina since the early 1930s.

Davis & Furber Buys Into Methuen Card Clothing Co.

The Davis & Furber Machine Co. of North Andover, Mass., and Charlotte, N. C., has purchased a substantial interest in the Methuen Card and Napper Clothing Co. Inc., Columbus, Ga. Methuen will continue to operate at Columbus and will maintain its present organization. Howard Sherlock will be vice-president and resident general manager at the plant. The new backers have announced that they intend to expand the manufacture of high quality cotton card clothing and flats under the Methuen name. In addition it will expand the manufacture of a complete line of woolen worsted and synthetic card napper clothing, hand cards and other required items.

Glass Yarn Plant Planned By Pittsburgh Plate Glass

One of the world's largest continuous fiber glass yarn plants will be built near Shelby, N. C., according to an announcement by Pittsburgh (Pa.) Plate Glass Co. A multi-million dollar plant, the new unit will employ approximately 850 persons at capacity operation. Construction work will get under way as soon as contracts for utilities have been signed and options have been exercised on the plant site. The company holds options on approximately 135 acres of land in Cleveland County about six miles west of Shelby. The 1-story structure will contain more than 350,000 square feet of floor space and will be completely air-conditioned. It will have 16 glass furnaces capable of producing 25,000,000 lbs. of yarn a year. It will employ the direct melt system of making continuous yarn and yarn will be twisted and plied on ring twisters specifically engineered for this plant. Complete installation of all the furnaces will take some 18 months after the completion of the building.

Universal Winding Receives Orders For 3,130 Winders

Repeat orders for 3,130 Unifil loom winders have been received by Universal Winding Co., Providence, R. I. These are the first substantial repeat orders received for the machines. Three thousand of the units were ordered by Amerotron Corp. The other 130 machines were ordered by Dover Mill Co., Shelby, N. C., to complement the 230 units they have had under evaluation for the past several months. Some 3,700 Unifils had been sold at the end of 1957, according to the company, and about 3,000 were operating on looms in 22 textile mills weaving a variety of fabrics with cotton, filament and spun synthetic fillings, ranging from very coarse to fine counts. Amerotron was one of the first companies to buy Unifil loom winders. Installation on their initial order for 500 units started in January 1957.

Morningstar, Nichol Merges With Paisley Products Inc.

Morningstar, Nicol Inc., New York City, producer of starch and chemical products for the textile industry, has merged with its subsidiary, Paisley Products Inc., producer of industrial adhesives, to form a single corporation, Morningstar-Paisley Inc. The merger became effective January 1. Also absorbed into the new corporation are several subsidiaries including Haberland Mfg. Co. and Federal Adhesives Corp., both acquired last Fall. Hayes Adhesive Co. Inc., St. Louis, Mo., and Aroostook Potato Products Inc., Houlton, Me., will continue as separate subsidiary corporations. The several West Coast subsidiaries of Morningstar and Paisley have all been absorbed into Morningstar-Paisley Inc. of California.

William Iselin Co. Now In 150th Year

William Iselin & Co. Inc. will enter its 150th year in 1958. The exact date when the financing firm started in 1808 is not known. A gross business of almost half a billion dollars was done by the company last year, representing the sales of more than 300 manufacturers to more than 100,000 of their customers. Isaac Iselin, founder, began as a "commission agent, dry goods importer and factor." At the turn of the century the company became primarily a financing organization. Presently heading it is Morton Goodspeed, president.

Chemical Industry Has Record Year In 1957

The chemical industry established a record in 1957 with aggregated sales of $24.4 billion, a 7% increase over 1956 and an increase of 122% over 1946, according to the year-end summary of the Manufacturing Chemists Association. A sales boost of 5% has been predicted for 1958 by the association. In 1957, the industry invested $1.8 billion in plant expansion, continuing a 12-year record of topping $1 billion for that expenditure. A new high of 184 was recorded for chemicals production through September 1957, as compared with 177 in 1956. Profits are expected to be above the average for all manufacturing in spite of the fact that rising labor and distribution costs were said to have squeezed profit margins this year.

Profits after taxes in the first half equaled 7.8% as against 8.3% in the same period last year. Improvement in the profit margin in 1958 is looked for by the association. Small price advances are predicted by the association, following an advance of 2.5 points this year. An estimated $500 million was used on research and development in 1957.

Net Profits For Staley Co. Show Gain Over Last Year

Some $5,175,249 in net profit was reported by the A. E. Staley Mfg. Co., Decatur, Ill., for the fiscal year ended September 30, compared with $4,853,950 for the previous year. Net sales for the two years are not comparable, the company says, because of a change in reporting basis, by which proceeds from the resale of purchased products have now been excluded in the dollar total of sales. On the new basis, net sales for the fiscal year were $152,317,086 as compared with net sales of $150,647,070 last year. Earnings per share of common stock were $2.73, compared with $2.61 for the prior year. A quarterly dividend of 25 cents was voted by the board of directors.

Record Sales Reported By Texize Chemicals Inc

Record sales and earnings for the fiscal year ending October 31 were reported by Texize Chemicals Inc., Greenville, S. C. Sales for the year were 34% over those for 1956. Gross sales for the year were listed at $5,004,414, an increase of $1,272,088 over last year. Earnings on 53,158 shares were listed at $2.84 per share as compared with $2.31 per share on 52,070 shares in the previous year.

The American Pulley Co. Acquires Hubbard Spool Co.

The board of directors of The American Pulley Co. have ratified an agreement for the acquisition of the business and all the assets, excepting the real estate, of the Hubbard Spool Co., Garrett, Ind., in an all-stock transaction, previously approved by Hubbard's stockholders. Hubbard will operate as a division of American Pulley. Under terms of the agreement, Hubbard's stockholders will receive 16,175 shares of American Pulley's $12.50 par value capital stock. No changes are contemplated in manufacturing, sales or executive personnel or in operating policies, it was announced. Eber J. Hubbard, president of Hubbard Spool Co., will head the new division.

Chemstrand Division Receives Safety Award

Chemstrand Corp.'s research and development division has been notified that it will receive the National Safety Council's highest award for industrial safety for its record of four years and over three million man-hours free of lost-time injuries. The last lost-time injury recorded for the division was in December 1953. Nearly 500 men and women are employed at the research center. The award is the second won by Chemstrand employees. The company's Pensacola, Fla., nylon plant is said to hold the world's record for safety in a textile plant with some 17 million man-hours free of lost-time injuries.

Commercial Factors Has Biggest Year

Commercial Factors Corp. reports that 1957 has been the biggest year in its history. The company notes that its factoring volume for 1957 will exceed $425 million. New business in both textiles and non-textile fields contributed to the all-time high. Commercial buys accounts receivable outright from its manufacturer clients and handles credits and collections for them.

Met-Tric Control Co. To Be U. S. Gauge Agent

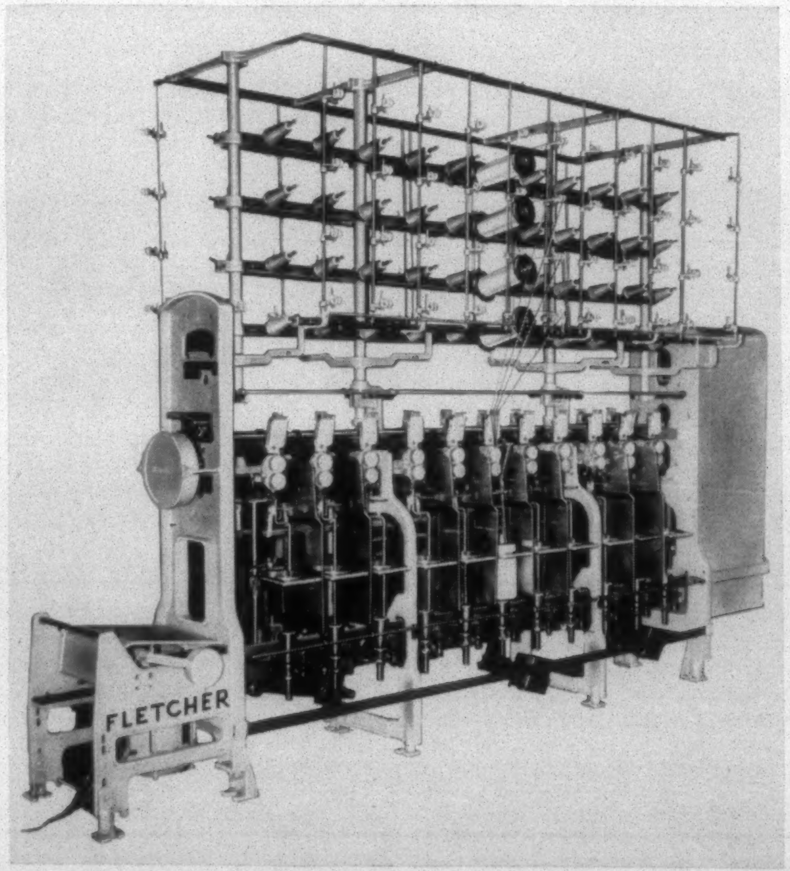
Met-Tric Control Co. of Charlotte, N. C., has been named master stock distributor in that area for the U. S. Gauge Division of American Machine and Metals Inc., Sellersville, Pa. Met-Tric will act as distributor for the company's controllers, gages, recorders and allied instruments.

Greenville Textile Hall To Receive New Building

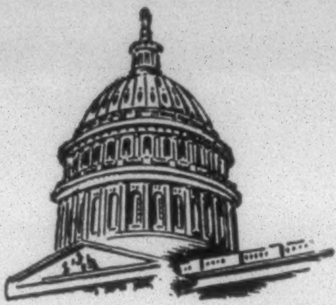
Bids will be taken early this year for the construction of a 16,000-square-foot addition to Textile Hall in Greenville, S. C. Construction of a one-story masonry structure was authorized by the board in December. With the new addition, the permanent buildings of Textile Hall will have a total of slightly more than 100,000 square feet, almost double the size of the hall in 1950.

Verona Chemical Co. Chooses New Name

Verona Chemical Co., Newark, N. J., has announced its new operating title will be Verona-Pharma Chemical Corp. The action follows the merger of Pharma Chemical Co., Bayonne, N. J., into the firm last January. Pharma will continue to operate as a division of the corporation, as will Verona Dyestuffs of Union, N. J. No personnel changes have been announced. Verona Dyestuffs, formed in 1953, is the U. S. representative of Farbenfabriken Bayer AG, Leverkusen.



THE FLETCHER WORKS, Philadelphia, Pa., has introduced a new customer service whereby manufacturers will be able to try the new Fletcher Master Duplex Twister for a three-month period on a rental basis before buying. Called the "Try-Buy Plan," the service provides for a low rental for the three-months period. If the customer purchases the unit, he is given credit for the rent paid against the purchase price.



WATCHING WASHINGTON

[Exclusive and Timely News from the Nation's Capital]

Widespread feeling prevails both in and out of Congress that the way to deal with national problems, military and economic, is to spend more money. Every kind of spending proposal, old or new, is being rigged out in the garb of aid to national defense. Total aid proposals to education alone run to staggering amounts. New housing, public power, welfare and grants-in-aid schemes are being hitched to the national defense bandwagon.

Proposals for Federal aid to scientific education are described by the U. S. Chamber of Commerce as "hiding the same old meddling government in a spanking new space age dress." The chamber said there "is no justification for the patchwork aid program the Administration is hastily submitting to Congress." It said "long range need for more scientists undoubtedly can be met without Federal intervention, and any problem of manpower is a matter of salary rather than education."

Substantial cuts in the number of employees abroad engaged in foreign aid distribution is scheduled for the next two years. Vice-President Nixon told State Department officials he found too many Americans overseas, and they are too conspicuous and often create resentment toward this country. Nixon said too many Americans in capitals of small countries sowed resentment by their customs, their disparate living standards, impressive cars and aloofness.

The President has spelled out his program for continued foreign aid and continuation of the reciprocal trade plan. He has cited the "intensive economic offensive" of the Soviets. There is little enthusiasm in Congress for either of these programs, and the President is headed into a major battle on retention of foreign aid. Proponents of aid have tied it with missiles as a major arm in national defense.

The President has based his hope for a balanced budget on rather doubtful grounds, with only a thin, precarious balance left at best. Personal incomes, now running at $345.5 billion, would have to rise to a yearly $350 billion, and corporate profits, now at $44 billion a year, would have to increase at least $1 billion.

Proposal to put a single high commander over the armed forces, other than powers already lodged in the President, is meeting with strong opposition in Congress. It is described as a key concept of the German general staff system, and setting up a one-man autocracy in military matters. Production of new missiles, it is held, is a matter of scientific and industrial effort rather than of military men.

The Interstate Commerce Commission has outlawed "hot cargo" clauses in wage pacts, and issued a cease and desist order against them. The commission did say it lacks jurisdiction to rule on the legality of the "hot cargo" clause which the teamsters union insists must be in its wage pacts. But it did say common carriers must handle cargo offered in keeping with operating permits, and they must not bargain away their obligations in service.

Supporters of state right-to-work laws are renewing efforts to pass these measures in the new climate created by revelations of the Senate Rackets

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Committee. New drives for the law, as a referendum proposal before voters, have been launched in California, Oregon and Washington. Petitions have been in circulation in Idaho for two months. Unions have mobilized to combat the drives, and there is doubt a national right-to-work proposal can be reached in this session of Congress.

A much restricted labor legislative program is being offered in the Senate by Senator Ives, (R., N. Y.) member of the McClellan Committee. Retreat from his position last Spring is due to assertions by labor leaders that the Rackets Committee is going "too far afield." They say there is a limit to co-operation that "respectable labor can give the committee."

It was quite agreeable to top labor bosses for the Rackets Committee to spank their "bad boy," Dave Beck, who has long been a prickly thorn in relations with them. But now the question is up to start inquiry into Walter Reuther's long strike and promotion of a boycott against the Kohler Co. of Wisconsin. The strike has been studded with violence. Reuther is loudly objecting to any inquiry into the internal affairs of his union, and is mobilizing his friends" in Congress to stop the inquiry.

In a joint meeting between members of the Rackets Committee and Meany's Ethical Practices group, Meany asserted there is nothing "wrong" with Reuther's union. He said the Rackets Committee knew this, and its proposed move is "not to uncover bad practices" so much as it is to lay a foundation to regulate internal affairs of unions. The joint meeting discussed proposed legislation, without agreement at any point between committee members and the Meany group.

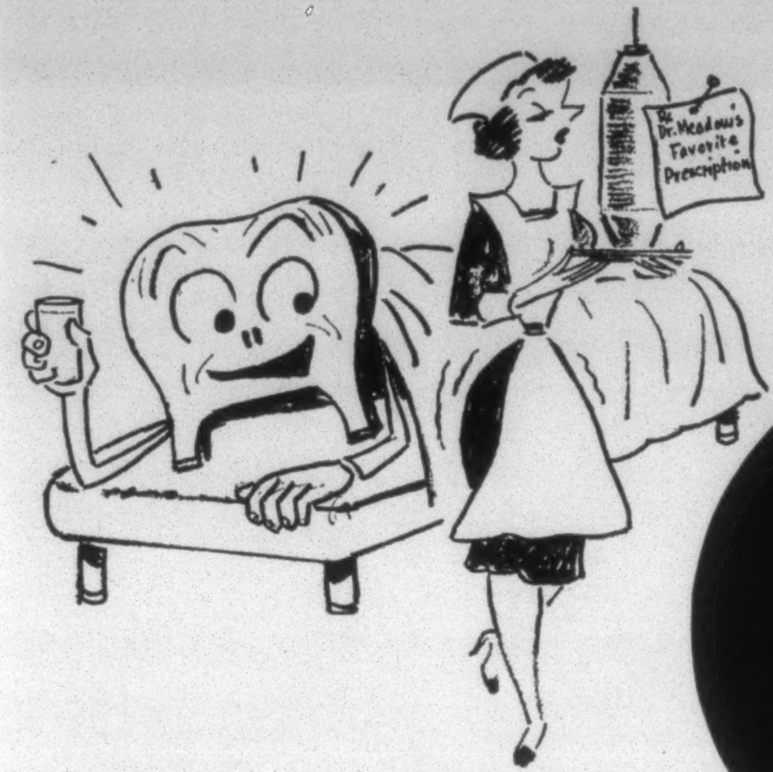
Secretary of Labor Mitchell said his program of legislative changes is designed to prevent abuses, but not impose governmental control on unions. But that is far more than union leaders want, and far less than Senators Goldwater and Curtis, and their associates, ask for. It will be extremely difficult to bring up for passage any legislation with clearly defined legal standards of sound practice, or to require full disclosure of union operations, with adequate penalties for violations.

Unions are adamant in demands for wage increases this year, based on belief that high military spending will produce unusual activity in all industry. They will press for a cut in working hours to meet automation and technical advances. The over-all pattern of wages appears certain to continue the upward trend that started with the war. More than 3,000,000 industrial workers will get automatic pay increases during the year from clauses in existing wage pacts.

Buyers' resistance to continuous wage increases and higher prices is regarded by some government officials as a major cause of growing unemployment in recent weeks. While union leaders complain bitterly that "recession" is here, other observers see it as growing opposition to rising prices that follow more pay for fewer days of work.

Administration leaders are cognizant that sending troops to Little Rock wiped out their burgeoning party strength in the South. Whether the party was helped in the North is open to question. Governor Faubus would appear to have emerged as a popular leader, and now in a position to become the first third-term governor of his state in 50 years. The President is extremely anxious to avoid clashes in this session of Congress with Southern Democratic leaders.

Lawmakers from farm states have no hope of gaining the ouster of Secretary Benson, but they hope to overturn his flexible price support program. Some of them worry more over farm problems in their districts than over national defense problems. Farm committee chairmen plan to hold back proposed legislation until late in the session, when oncoming elections will smooth the way for an over-all omnibus bill with higher relief.



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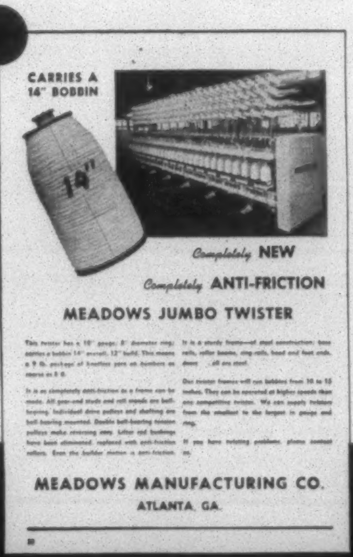

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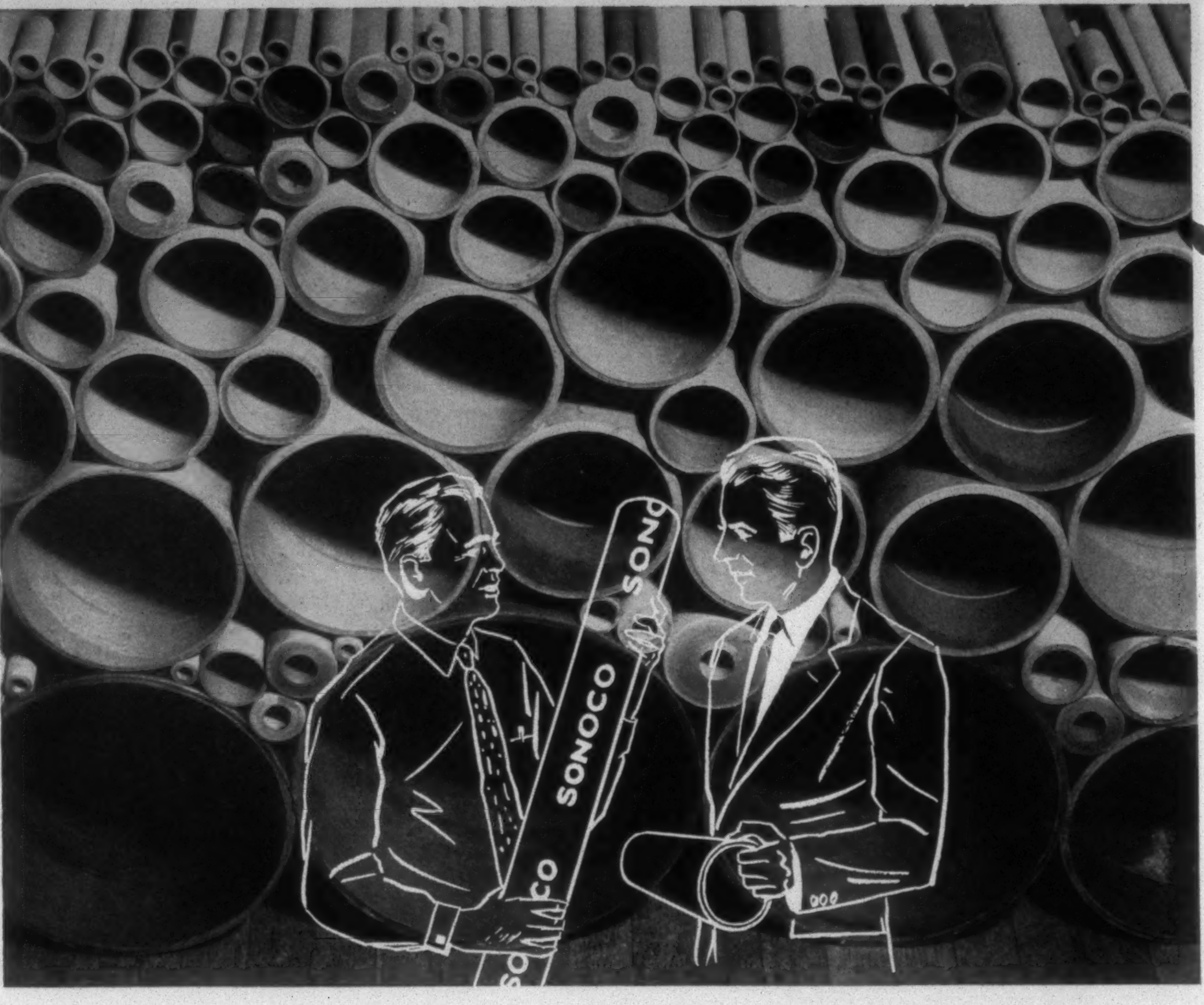

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TEXTILE BULLETIN is devoted to the dissemination of information and the exchange of opinion relative to the spinning and weaving phases of the textile industry, as well as the dyeing and finishing of yarns and woven fabrics. Appropriate material, technical and otherwise, is solicited and paid for at regular rates. Opinions expressed by contributors are theirs and not necessarily those of the editors and publishers. ¶ Circulation rates are: one year payable in advance, $1.50; two years payable in advance, $2.00; one year, Canada, $3.00; one year, other countries in Postal Union, $5.00; single copies, 25 cents. ¶ A companion monthly journal, THE KNITTER, is published by Clark Publishing Co. and devoted to the interests of the knitgoods manufacturing industry.

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What Now For The Two Rival Textile Unions?

At the eleventh hour the 40,000-member United Textile Workers Union (formerly A.F.L.) has been taken back into the A.F.L.-C.I.O. fold in good standing after promising "firm and full compliance" with all clean-up directives laid down by the A.F.L.-C.I.O. and its appeals committee. This action was taken by the recent A.F.L.-C.I.O. annual meeting in Atlantic City, N. J., and subsequently George Meany, A.F.L.-C.I.O. president, made the statement that now this matter had been settled, the U.T.W. would merge soon with the 200,000-member Textile Workers Union of America (formerly C.I.O.).

This is interesting indeed if it turns out that way, but those who have been familiar with the record of the past activities of these two rival textile unions, particularly in the South, will be inclined to maintain a "seeing is believing" attitude, for the present at least. Mr. Meany, in his statement, pledged no compulsion on the two unions to combine, but he said that the consolidation would be "a boon to the industry and its workers."

The A.F.L.-C.I.O. president readily conceded the U.T.W. had been tainted with "almost unbelievable thievery and outright embezzlement" but that the officials exposed in the Senate Rackets Committee hearings have now been weeded out and that remaining U.T.W. officials have signed pledges to carry out reforms.

Two of the U.T.W.'s former officers, Secretary-Treasurer Lloyd Klenert and President Anthony Valente, were linked with corrupt practices at the Senate committee hearings and subsequently resigned. The Senate hearings testimony also charged the U.T.W.'s general counsel, Joseph Jacobs, with renting automobiles he owned to the union.

The compliance agreement was signed by Francis Schaufenbil of Lawrence, Mass., acting president and secretary-treasurer of the U.T.W. It provides, among other things, for the calling of a special convention within 90 days to elect new officers. The agreement also specifies that neither Klenert, Valente nor Jacobs will be eligible for election to any office. The agreement further requires that convention delegates and new officers must be elected by secret ballot and that new officers must make "periodic" progress reports to the A.F.L.-C.I.O. Executive Council.

So "finis" apparently has now been written to this most unsavory chapter in the story of textile unionism and for the moment the surface seems rather calm. If the truth be known, of course, it is that the A.F.L.-C.I.O. has long since ceased to make any headway in the South, despite the fact that more organizers have been working in this area than in any other section of the country.

One reason, of course, that the unions are taking such a beating in Dixie is to be found in the A.F.L.-C.I.O.'s support of racial integration. Already slowed-down organizing efforts have come to a virtual standstill since the Little Rock, Ark., affair last Autumn. The unions have been struggling with this problem for years now, actually ever since labor went political. And from the labor standpoint, despite everything which is and can be said, a solution to its problem seems to grow dimmer all the while.

Traveling Public Leans To Colored Sheets And Towels

American hotel guests like colored sheets and towels. The preference, in fact, is rather emphatic. This has been determined by scientifically controlled tests of 12 months' duration. Twelve panel hotels participated in the test or survey under the executive housekeeper in each hotel.

Reaction to the colored linens was striking. From question cards placed in guest room during the test, 178 reactions were recorded in the first six months. Of these, 157—or 88 per cent—responded favorably, ranging from extreme enthusiasm to mild approval. Only 12 guests indicated a preference for white linen. Nine exhibited a slightly negative reaction.

On the technical side, the tests proved equally interesting. Colored linens of the type used were in no way "special" and no extra care has to be given them. The executive housekeepers who supervised the tests were unanimously favorable in their reactions to the colored sheets, pillow cases, huck and terry towels and bath mats, and most of them expressed surprise at the durability of the colors.

Colored linens in four pastel shades—blue, green, pink and yellow—were used. The housekeepers were instructed to give the colored linens exactly the same treatment in laundry and in use as their regular linens. Records of laundry conditions were kept as well as the number of launderings and evaluations of color loss.

Linens were withdrawn for laboratory evaluation from six hotels at the end of six months and from the remaining six at the end of a year. Ratings on color loss by technical experts agreed closely with the practical evaluations by the executive housekeepers. All agreed that, except in a few isolated instances, color loss ranged from "slight" to "moderate."

The tests were a part of the many-sided research by the American Hotel Association's Membership Services Department and is an example of co-operative research of a type from which much-needed information is obtainable at low cost to the participants. Co-operating in the project were members of the National Executive Housekeepers Association and the dyes and chemical division of the Du Pont Co.

Right-To-Work Drive Holds 1958 Spotlight

If problems were children, instead of maybe the other way around, the old woman of nursery rhyme who lived in a shoe might indeed be in an enviable position compared to organized labor and the outlook for 1958. In fact, some of the experts are currently saying that labor's 1957 corruption troubles may pale before the employment, bargaining and legislative problems that are beginning to shape up in the early part of the current year.

Not too much has been made of the fact, but actually one of labor's biggest worries about the Senate rackets investigation has been that it will give a fresh push to the passage of "right-to-work" laws. Such concern is indeed justified, for new drives to enact right-to-work laws are forming in several of the states, including some of the big ones like California, Ohio, Michigan and Kansas. Likewise, it is equally true that labor leaders are justified

TEXTILE INDUSTRY SCHEDULE

— 1958 —

Jan. 30-Feb. 1 (Th-Sa)—Annual conference, **TEXTILE DIVISION, AMERICAN SOCIETY FOR QUALITY CONTROL**, Clemson House, Clemson, S. C.

Feb. 5 (W)—**A.A.T.T.**, Della Robbia Room, Vanderbilt Hotel, New York City.

Feb. 12-14 (W-F)—**1958 COTTON RESEARCH CLINIC** (sponsored by the National Cotton Council of America), The Carolina, Pinehurst, N. C.

Mar. 5 (W)—**A.A.T.T.**, Della Robbia Room, Vanderbilt Hotel, New York City.

Mar. 6-7 (Th-F)—Spring meeting, **TEXTILE QUALITY CONTROL ASSOCIATION**, Poinsett Hotel, Greenville, S. C.

Mar. 13-14 (Th-F)—Spring meeting, **SOUTHERN TEXTILE METHODS AND STANDARDS ASSOCIATION**, The Clemson House, Clemson, S. C.

*Mar. 15 (Sa)—Spring meeting, **PIEDMONT DIVISION, SOUTHERN TEXTILE ASSOCIATION**, Johnston Memorial Y.M.C.A., Charlotte, N. C.

Mar. 18-21 (Tu-F)—Spring meeting, **A.S.T.M. COMMITTEE D-13 ON TEXTILES**, Sheraton-Park Hotel, Washington, D. C.

Mar. 20-21 (Th-F)—Textile Engineering Conference, **AMERICAN SOCIETY OF MECHANICAL ENGINEERS**, North Carolina State College, Raleigh, N. C.

*Mar. 28 (F)—Spring meeting, **SOUTH CAROLINA DIVISION, SOUTHERN TEXTILE ASSOCIATION**, Clinton High School, Clinton, S. C.

Apr. 2 (W)—**A.A.T.T.**, Della Robbia Room, Vanderbilt Hotel, New York City.

Apr. 10-12 (Th-Sa)—Annual convention, **AMERICAN COTTON MFRS. INSTITUTE**, Hollywood Beach Hotel, Hollywood, Fla.

Apr. 11-13 (F-Su)—Spring meeting, **PIEDMONT SECTION, A.A.T.C.C.**, Washington Duke Hotel, Durham, N. C.

*Apr. 12 (Sa)—Spring meeting, **NORTHERN NORTH CAROLINA-VIRGINIA DIVISION, SOUTHERN TEXTILE ASSOCIATION**, Mineral Springs High School, Winston-Salem, N. C.

Apr. 16-18 (W-F)—Annual meeting, **ALABAMA TEXTILE MANUFACTURERS ASSOCIATION**, Hotel Buena Vista, Biloxi, Miss.

Apr. 23-26 (W-Sa)—Annual meeting, **COTTON MANUFACTURERS ASSOCIATION OF GEORGIA**, Boca Raton Hotel, Boca Raton, Fla.

*Apr. 24-26 (Th-Sa)—55th annual convention, **PHI PSI FRATERNITY**, Ben Franklin Hotel, Philadelphia, Pa.

*Apr. 24-26 (Th-Sa)—National convention, **DELTA KAPPA PHI FRATERNITY**, The New Bedford Hotel, New Bedford, Mass.

*Apr. 29-30 (Tu-W)—Spring meetings, Technical Advisory Committee and Board of Trustees, **INSTITUTE OF TEXTILE TECHNOLOGY**, Charlottesville, Va.

Apr. 30-May 1 (W-Th)—Spring meeting, **THE FIBER SOCIETY**, The Clemson House, Clemson, S. C.

May 3 (Sa)—Spring meeting, **ALABAMA TEXTILE OPERATING EXECUTIVES**, Thach Auditorium, Alabama Polytechnic Institute, Auburn, Ala.

May 7 (W)—**A.A.T.T.**, Della Robbia Room, Vanderbilt Hotel, New York City.

May 19-24 (M-Sa)—**NATIONAL COTTON WEEK**, sponsored by the National Cotton Council of America.

May 26-29 (M-Th)—**NATIONAL PACKAGING CONFERENCE AND EXPOSITION** (sponsored by American Management Assn.), New York Coliseum, New York City.

*May 29-31 (Th-Sa)—Annual meeting, **SOUTH CAROLINA TEXTILE MANUFACTURERS ASSOCIATION**, The Cloister, Sea Island, Ga.

June 4 (W)—**A.A.T.T.**, Della Robbia Room, Vanderbilt Hotel, New York City.

June 19-21 (Th-Sa)—Annual convention, **SOUTHERN TEXTILE ASSN.**, The Grove Park, Asheville, N. C.

June 22-27 (Su-F)—61st annual meeting, **AMERICAN SOCIETY FOR TESTING MATERIALS**, Hotel Statler, Boston, Mass.

Sept. 9-10 (Tu-W)—Fall meeting, **THE FIBER SOCIETY**, Montreal, Canada.

Sept. 11-12 (Th-F)—Annual meeting, **COMBED YARN SPINNERS ASSOCIATION**, The Cloister, Sea Island, Ga.

Oct. 1-2 (W-Th)—Seventh annual **CHEMICAL FINISHING CONFERENCE** (sponsored by the National Cotton Council), Washington, D. C.

Oct. 6-10 (M-F)—**SOUTHERN TEXTILE EXPOSITION**, Textile Hall, Greenville, S. C.

Oct. 14-17 (Tu-F)—Fall meeting, **A.S.T.M. COMMITTEE D-13 ON TEXTILES**, Sheraton-McAlpin Hotel, New York City.

Oct. 25 (Sa)—Fall meeting, **ALABAMA TEXTILE OPERATING EXECUTIVES**, Thach Auditorium, Alabama Polytechnic Institute, Auburn, Ala.

Oct. 30-Nov. 1 (Th-Sa)—National convention, **AMERICAN ASSN. OF TEXTILE CHEMISTS & COLORISTS**, Conrad Hilton Hotel, Chicago, Ill.

*Nov. 7-8 (F-Sa)—**TEXTILE SEMINAR** (sponsored by the University of Georgia Division of Clothing and Textiles in Extension, Teaching, Research), Georgia Center for Continuing Education, Athens, Ga.

(M) Monday; (Tu) Tuesday; (W) Wednesday; (Th) Thursday; (F) Friday; (Sa) Saturday

Listed for the first time this month.** ***‡Tentative listing. ***†Changed or corrected from previous issue.***

in expressing heartfelt gratitude that most of the state legislatures do not meet regularly in 1958 and won't be meeting regularly until next year.

What they'd be afraid of otherwise, of course, would be a virtual stampede to enact right-to-work laws, set off by the widely publicized revelations of graft and racketeering in certain unions. They hope, of course, that by 1959 these revelations will have become only faint memories, but that could very well belong in the realm of wishful thinking, a pastime at which they have often been adept in the past.

Nevertheless, the crucial battles affecting labor legislation may be fought in state capitals rather than in Washington. Of course, Congress could amend the Taft-Hartley Act to outlaw the union shop on a national basis. In fact, Senator John L. McClellan of Arkansas, chairman of the Senate Rackets Committee, has said that the findings of his committee may convince him that such a ban is necessary.

However, with the Democrats hopeful of expanding their majority in this year's elections, it's considered hardly likely they would risk an estrangement of their friends in labor's top echelon by ramming through a right-to-work law on the national scale. The Administration certainly will be exerting no pressure for such legislation. President Eisenhower's chief labor adviser, Secretary of Labor James P. Mitchell, also does not believe in such laws.

Hence the great importance which has come to be attached to the developments on the state level. One thing, of course, which has sharpened the renewed right-to-work drive has been Senator William F. Knowland's decision to make advocacy of such legislation a cornerstone of his bid for the Republican gubernatorial nomination in California.

The Taft-Hartley Act tolerates the union shop while banning the closed shop. At the same time the act specifically allows a state to ban the union shop within its own borders by a so-called right-to-work law. Under a closed shop, only union members can be hired and all employees must remain members thereafter. Under the union shop, non-unionists may be hired, but they then must join the union within a specified period and stay in it.

Eighteen states now ban the union shop. Ten are in the South, five in the Middle West and three in the Rocky Mountain region. There is none in the East or on the Pacific Coast. It might be noted that 11 of the 30 states without right-to-work laws do have regular sessions of their legislatures in 1958. Six of these 11 are industrial states where labor has a relative strong legislative influence. One of the other five, Kentucky, has scheduled a referendum on the issue for November. The other four are Colorado, Kentucky, Louisiana and Maryland.

Indiana, one of the industrial states with some 600,000 union members within its borders, adopted a right-to-work law last Winter in the wake of public indignation over the wounding of a baby girl by gunfire in a labor dispute.

The new year, of course, is just getting under way, and how much headway the right-to-work drives make probably will depend in large measure on how many more unions are found to be polluted, how successful labor is in enforcing its own ethical practices code, and whether the labor-management front remains relatively quiet as it was during 1957. A crippling strike by a major union, it goes almost without saying, could have the effect of greatly increasing pressures for restrictive legislation in the nature of right-to-work laws.

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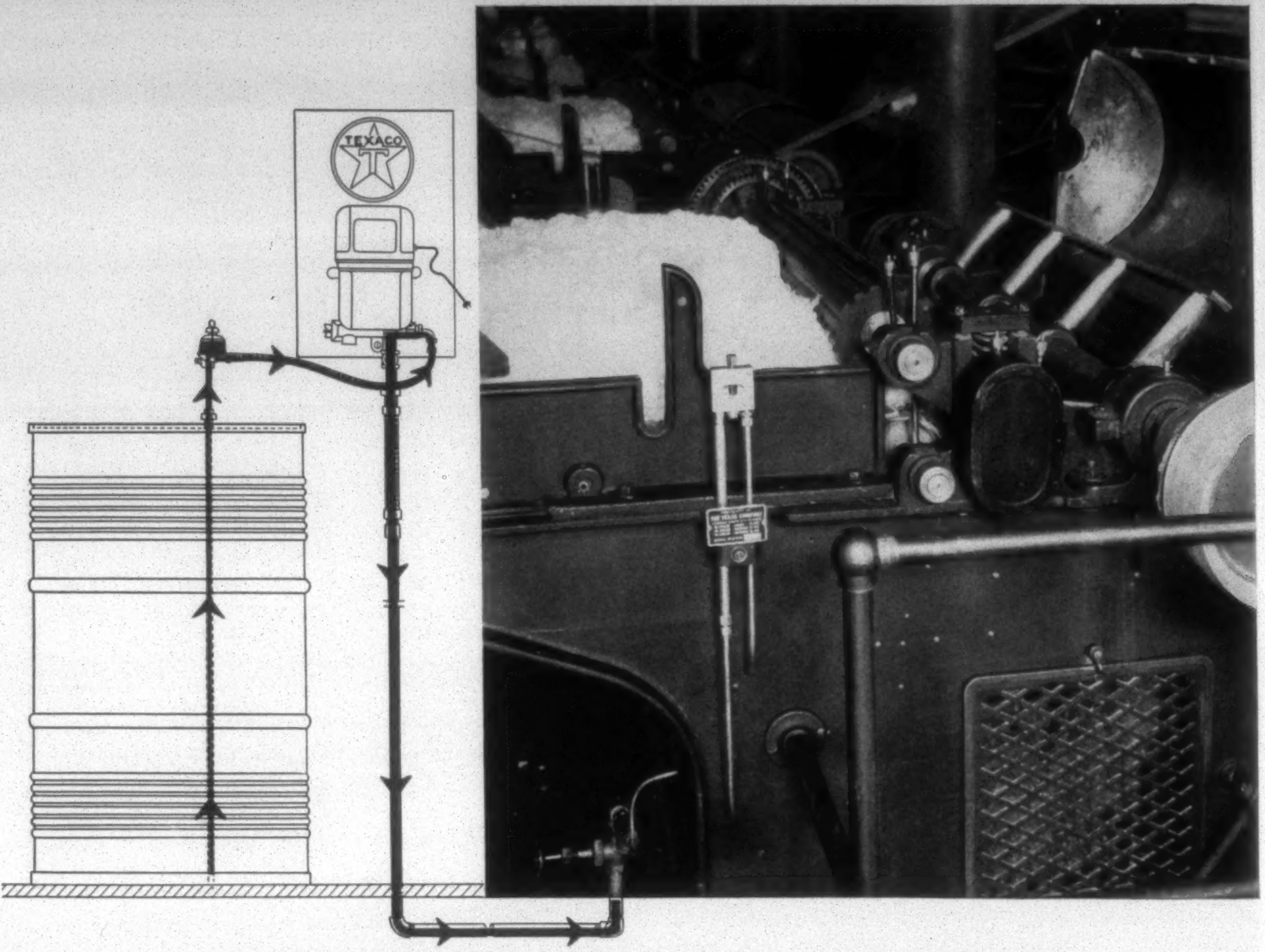

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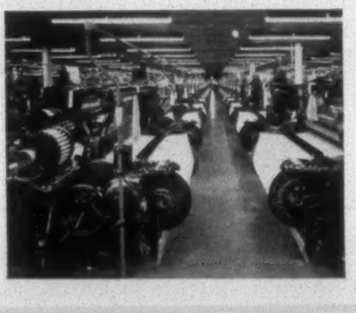

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textile bulletin

VOL. 84 JANUARY 1958 NO. 1

The Supply Situation

Cotton's Deep Dilemma

THE monolithic economic folly behind the U. S. government's unrealistic cotton policy has been rather painfully apparent for a long time. One situation or crisis after another has been building up to the inescapable conclusion that a completely new approach to the problem is very badly needed—an approach which can make a clean break with the 1930's and deal soundly with agriculture and world conditions as they exist in the late 1950's.

Billions of dollars have been poured by the government into price supports, crop loans and the soil bank since the first price support law was passed in the 1930's to meet depression conditions that were exactly the opposite of the situation prevailing in later years. And now once again the curious economic skulduggery, which long since reached the proportions of a national scandal, has conspired with nature to leave both the cotton producers and the mills in an alarming situation which easily and quickly could become a catastrophe.

1957 Crop Outlook Bleak

Adverse weather conditions stretching over virtually the entire Cotton Belt in late months have struck a terrifically destructive blow to the quality and quantity of the already sharply curtailed 1957 crop, and the domestic mills enter 1958 faced with a critical situation in respect to their chief source of raw material, government-controlled cotton. This sudden situation, coupled with the abnormally high proportion of undesirable cotton in Commodity Credit Corporation stocks, has greatly worsened U. S. cotton's ability to compete at home and abroad.

From any measurement or standpoint, the alarming cotton supply situation reaches the proportions of a calamity and it has become quite apparent that for the benefit of all segments of the nation's economy the present Congress must act immediately not only to provide greater cotton acreage but also a pricing policy that will increase both domestic and foreign consumption of American cotton. The need for quick remedial action is urgent because the 1958 planting season is now so close at hand.

The current pricing policy permits the government to sell American cotton to foreign mills at a price 20 per cent below the cost to U. S. mills. Coupled with the extremely low wages paid to foreign mill employees, the pressure on American mills is well nigh unbearable. The cotton farm leaders who are aware of the developing situation are extremely concerned and realize, too, that the situation becomes graver by the moment. Nevertheless, there is still great urgency that organized cotton producing groups of importance get behind a single acceptable program which Congress can adopt, with or without Administration approval.

The December 1 estimates placed the current crop almost two million bales below the September estimate—a severe drop within a scant three months. Actually this is the most drastic reduction in yield per acre to be recorded between these dates in recent years. On top of this, the quality deterioration of the current crop is extremely critical and the situation is so serious that mill men and cotton people use such words as "panic" to describe the condition of the raw cotton market. A rare combination of a late crop and bad weather have brought ruinous effects.

To be viewed in the proper perspective, or to be adequately evaluated, the situation must be considered in relation to the following pertinent facts: On Aug. 1, 1957, the quality of both grade and staple of the carryover was the lowest since 1946. Beyond this, the proportion of white cotton in the carryover was the lowest on record, with about 4,500,000 bales being described as spotted or off-color. It goes without saying, of course, that a considerable amount of the undesirable cotton coming from the current crop will be added to Commodity Credit Corporation inventories.

Thus, quite obviously, the government stock on Aug. 1, 1958, will consist largely or mainly of the picked over residue from several previous years, plus the abnormally low addition from the current crop. Hence the Commodity Credit Corporation can be counted on for very little desirable cotton during the next year.

The 1958 Crop

As to the 1958 crop: if the harvested acreage in 1958 is at the same level as in 1957, a record yield of 425 pounds per acre would have to be attained to produce a 12-million bale crop. Foreign requirements for U. S. cotton during the 1958 crop year are estimated by the trade to be about six million bales, although current season exports may fall one-half to one million bales less, due primarily to the scarcity of good qualities.

It should be realized, of course, that exporters will be bidding against domestic mills for the new production since the government stocks almost certainly will be inadequate to continue the present type of export program. Under this present program the exporters buy cotton directly from the Commodity Credit Corporation rather than through the regular channels of trade, as they would under a cash export subsidy plan.

There is, of course, some grave concern that there is a very real danger that the poor quality of the remaining government stocks might force the Commodity Credit Corporation to resort to a cash export subsidy to maintain an export market. In this eventuality, of course, domestic mills will be competing with the exporters for the 1958 crop and, in view of the projected carryover, it becomes very plain that even a 12-million bale crop can't provide the qualities necessary to meet both domestic and export demands.

On the price side, parity is going up and premiums are rising. Leaders in the producer segment of the industry are worried about such a situation and price structure which worsens cotton's competitive struggle with rayon. This is why it is so imperative that the law be changed, in time to apply to the 1958 crop, so that there will be increased acreage, to provide a greater supply and a greater volume of better qualities, and so that there can be a practical pricing policy which makes cotton competitive and thereby increases consumption.

For cotton to price itself out of the market even more than it has heretofore would be a calamity of first magnitude not only for the cotton farmers, whom the government's farm policy is supposed to help rather than to hurt, but also for the cotton textile industry and the many people and the related segments of the national economy that it supports or helps to support. It all adds up to the fact that present cotton policy is severely hurting the textile industry. It has been severely hurting the small cotton farmers who have been increasingly restricted by acreage quotas. If cotton loses its appeal pricewise, it's going to hurt, and hurt severely, the big cotton producers—the ones who have benefited the most, up to now, from the price support program.

Apparently we did something wrong.

Basic Facts And Figures

Consider, for a moment, these basic statistics or facts: The Cotton Belt reaches from Virginia to California and includes some 840,000 farms in 19 states. The farm value of cotton in 1956 was about $2.5 billion. Over 1.2 million workers are engaged in spinning, weaving and finishing cotton products. If this sounds impressive, it must be considered likewise that cotton for the last three decades or more has been steadily losing ground and acreage is about one-third what it was 30 years ago. The domestic market has stood at about 9.2 million bales a year for the past ten years. On the other hand, the production of synthetic fibers has doubled in the past eight years, accounts for more than 25 per cent of the fiber market and is equivalent to five million bales of cotton annually.

In a letter to Secretary of Agriculture Benson, urging immediate action to remedy the impending cotton shortage, C. A. Cannon, president of Cannon Mills Co. and chairman of the American Cotton Manufacturers Institute's Special Cotton Policy Committee, recently pointed up the fact that "the situation, for farmers and mills, is one of crisis" and warned that another year of inaction would mean catastrophe. Mr. Cannon reminded that "any emergency requirements by the Federal government for military supplies would create a panic in the cotton market" since cotton for such an emergency "is not available in this country." The only remedy, he said, is legislation to increase acreage, assure competitive pricing and to produce in 1958 quality cotton for nearby consumption and a reasonable carryover. Anything short of this program, he said, would mean further unemployment in the cotton textile industry and "havoc" for the cotton farmer.

Sixteen Million Bales For 1958

Before the new cotton crop comes to market in the Autumn of 1958, Mr. Cannon pointed out, there will be a tragic shortage of the types of cotton needed for quality goods in the U. S. and abroad, and as a consequence foreign buyers will depend more and more on foreign cotton-producing countries, which will increase their production as much as possible. Mr. Cannon feels that American cotton producers in 1958 should be encouraged to increase their acreage so as to achieve a minimum production of 16 million bales. He estimates a crop of this size is necessary to restore the normal stock of spinnable cotton for home consumption and for export.

Industrywide the most recent trend of thinking has seemed to be toward some sort of emergency legislation for application to the 1958 crop, with a long-range program to become effective in 1959. For something to be done in time to apply to the 1958 crop means that there must be action by Congress before March 1, or by March 15 at the latest. Cotton industry leaders agree that there seems little likelihood Congress will act that fast unless virtually the whole cotton industry is united in its recommendations.

Prominent in most industry discussion, of course, has been the so-called American Cotton Producer Associates

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plan which would make cotton competitive at home and abroad since it provides for one price. It is readily conceded, however, that this bill faces a stiff fight because it is opposed by the Administration, by the Department of Agriculture and by the American Farm Bureau Federation, to whom the idea of compensatory payments on the domestic portion of allotments is anathema.

Meanwhile the worsening situation has already put the cotton mill industry in its tightest squeeze since the mid-Summer of 1946. A scant three months ago there were many who thought the industry was beginning to move out of its prolonged recession. Then, by the middle of November, the mills began running into a scarcity of higher grade cotton from the late and sharply restricted 1957 crop. The consequent upturn in prices of desirable grades of cotton for production of good quality yarns and fabrics began to increase manufacturing costs substantially. Moderate advances in the prices of yarn and fabric have not been sufficient to offset the price advances of raw cotton.

Late in December, the U. S. Department of Agriculture reported that cotton mill margins—the differences between raw cotton costs and cloth prices—had reached the narrowest since June 1952. The spread between the price of a pound of cotton and its approximate cloth equivalent averaged 24.69, which compared with 26.36 cents in October and 30.37 cents in November 1956.

Despite the prosperous well-being of industry as a whole, the textile mills have been in the doldrums almost constantly since the end of the Korean War. The No. 1 trouble with the textile industry, it is not difficult to perceive, is the cotton policy of the U. S. government. The parallel or No. 2 trouble is foreign competition and U. S. foreign trade policy in respect to textiles. The government controls cotton acreage. It buys cotton through its price support program. It sells cotton at two prices—one to American mills, and a lower one to foreign mills competing with American textiles. It is indeed time the government should get out of the cotton business.

The current crisis presents the opportunity to make the long overdue start in that direction. The desired objectives are plain: (1) to give the cotton farmer an income somewhat comparable to other groups; (2) to provide a price low enough so mills can use cotton in competition with other fibers; (3) a price stable enough to encourage long-term investments by processors; and (4) free enough to keep the trade in private hands and to take the government out of the cotton business, into which it has sunk literally up to its neck.

The cotton growers and their representatives, of course, were primarily responsible for getting the government into the cotton business in the first place. They wanted their prices protected and to get as much as possible for their product, wherever it was sold. The government got deeper and deeper into the loan business and when it accumulated a big surplus or over-graded cotton piled up, it sold the cotton overseas—at a discount or bargain basement price. But the government—and too many growers—have tended to overlook the one main thing: that the big and continuing market for the American farmer's cotton is the American cotton mill.

The program has long since reached the point where it has severely injured the cotton farmer himself. This is simply because of the fact that the artificial price of cotton has been a principal factor in the sizeable reduction in the amount of cotton consumed in the U. S. and has boosted the production of the man-made fibers. And it has become all too readily apparent, as some of the farm leaders themslves are beginning to see now and to be concerned about, that cotton's position in the textile markets will continue to weaken unless and until there is a realistic one-price system for American cotton throughout the world.

Bahnson To Sponsor Educational Programs

Two educational programs starting March 3 and March 10 for maintenance engineering personnel have been announced by The Bahnson Co. and associates sponsoring the program. The program will be held at the Robert E. Lee Hotel in Winston-Salem, N. C. There will be no charges for the programs. However, the cost of meals, hotel accommodation and transportation will be paid by personnel attending.

In announcing the programs, the sponsors advise that one week will be a duplicate of the other so that all maintenance personnel from an organization can attend without hampering plant operation.

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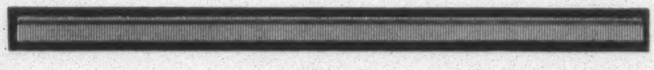

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ENGINEERING CHANGES and IMPROVEMENTS in FUNCTION of SPINNING FRAMES

1947-1957

By E. KENT SWIFT JR.
Vice-President & Director of Research
Whitin Machine Works, Whitinsville, Mass.

The following is the text of a paper delivered by Mr. Swift last month at the annual meeting of The American Society of Mechanical Engineers at the Hotel Statler in New York.

DURING the period from 1947 to 1957, a large number of engineering changes were made in the spinning frame including entirely new creels, substantial modifications in the drafting system elements, new spindle constructions and a different method of counterbalancing the moving ring rail. Several new accessories have been developed. The utilization of modern metallurgical knowledge, high speed precision machine tools and scientific quality control techniques in manufacturing have likewise contributed to improving the function of the spinning frame.

I think it would be correct to say that the spinning frame today is a far better machine than its predecessor of ten years ago. The yarns produced are more even and approximately 10 to 15 per cent stronger. Direct labor requirements in spinning have been reduced in some mills by 40 per cent; power requirements in comparable conditions are down eight to ten per cent. Maintenance costs have dropped substantially and some mills have reduced oil, grease and lubrication costs in this process by 80 per cent or more.

I believe we can be proud of these accomplishments. To understand how they were secured, we must examine the engineering improvements individually, for each one contributed its share to the total improvement in spinning frame function. The specific operational benefits are seen in the present use of large roving packages, coarser roving sizes, larger spinning rings, larger bobbins and higher spindle speeds. All of these in turn reflect lower operational cost in the preceding or succeeding operation.

Creel Changes

One of the most conspicuous changes is the creel. In its present form, it has many advantages over the preceding creel which consisted of two or three solid boards mounted over the frame by rigid supports. The present creel consists of widely spaced rods from which the bobbins are suspended in special holders. The creel is entirely open, making all parts of it accessible to the air currents blown through it by moving overhead cleaners. Ten years ago, it was necessary to use a skewer through the center of the bobbin, the ends of the skewer rotating in porcelain cups. The new type creel requires little or no cleaning by the operator and the bobbins are handled in far less time.

Changes In Drafting System

An inspection of the drafting system that was used on the spinning frame built in 1947 by the Whitin Machine Works and the elements in a 1957 spinning frame drafting system would show that a very large number of changes have been made. In fact, there are hardly any elements which are the same, although the general principles are still employed. On our Whitin Unitrol System, the weight applied to the top rolls is secured by a top arm which contains precalibrated springs, resulting in the application of approximately 34 pounds to the top front roll, and 15 pounds each to the middle and back. The die-cast housing is smoothly streamlined and held in position by a latch and hook arrangement. The top arm also holds the top rolls and maintains them parallel to, and in accurate alignment directly above, the corresponding bottom roll.

Top Roll Design

Modern top rolls represent a high point in textile machinery engineering design and manufacture. A top roll consists of a center shaft upon which are mounted two bosses, separately rotating on the front line, but fixed so that both bosses rotate with the shaft on the middle and back lines. The top rolls are held in the top arm by clip holders grasping a non-rotating sleeve on the center shaft. The bosses are covered with tubes of synthetic rubber to provide a cushioning effect and grip on the fibers. The front top rolls operate at speeds from 70 to 200 r.p.m. (average use 130 to 150 r.p.m.) in the presence of lint. Middle rolls rotate at much lower speeds in the vicinity of 8 to 14 r.p.m. depending on the draft. At 200 r.p.m., the total revolutions per year is approximately 86 million.

Our top rolls are made to standard run-out tolerances of .001 inches and the manufacturing departments consistently better this figure. Keeping grease inside the anti-friction bearings and preventing individual fibers thrown off in drafting from penetrating into the anti-friction bearings or non-lubricated nylon or Roulon bearings used on middle and back rolls is a formidable problem solved on Whitin rolls by an ingenious arrangement of seals.

The new weighting arrangement and new top rolls have had the following results: the elimination of the open back bar bearings formerly required to hold the solid rolls, much better roll alignments, dependably uniform and sufficient weighting on the rolls, and elimination of oil and grease from the drafting area. Since the presence of oil creates many problems in both the yarn and the finished fabric, this is an important functional improvement.

The top roll and weighting arrangement now used on modern Whitin spinning frames contrasts very markedly with the systems used ten years ago. At that time solid top rolls were used. These were suspended in back bar bearings and required lubrication daily. The weighting was applied by a somewhat cumbersome mechanical device. With this type of weighting mechanism, oil had to be frequently applied to the top roll bearings underneath the front and back saddle. The whole mechanism required frequent cleaning, and it was not always possible to secure uniform weighting on the top rolls.

Cradle Improvements

Changes in the design of the cradles used to carry the aprons have resulted in more accurate control of the fibers by bringing the bite closer to the front roll. Today, the cradles are much narrower in width, and the opening at the nose of the cradle has been closed by the use of converging instead of parallel pins.

A GEORGIA PEACH—A red-haired beauty from Atlanta, Miss Jean Carter, was chosen early this month as the 1958 Maid of Cotton. The poised and gracious 20-year-old coed will represent the American cotton industry on an international fashion and good will tour that will take her to 40 major cities in the U. S., Canada and Europe. A junior at Vanderbilt University in Nashville, Tenn., she has sparkling brown eyes and is five feet, eight inches tall.

Cork coverings used in 1947 have given way to synthetic anti-static and anti-lapping cots, and leather bands used in the cradles have been replaced with synthetic aprons.

The case-hardened steel bottom rolls now used are one inch in diameter on all three lines. This is an increase over the 7/8-inch middle and back bottom rolls used ten years ago. Bearing sizes on the rolls have been increased from .650 to .750 inches. All three lines of bottom rolls are now screw jointed. In 1947, the practice was to use square jointed rolls on the middle and back lines. Roll fluting is now very accurately done by the broaching process instead of planing and filing.

The improved wear resistance of modern synthetic cots has permitted a shortening of the traverse motion. The reduction in the traverse motion was also beneficial in restricting the yarn stroke over the orifice of the pneumatic waste removal duct, which is located under and near the point where the fibers emerge from the front rolls.

Changes in the head end gearing now provide draft constants up to 3,000 when compound gearing is used, and 1,750 with regular gearing. In 1947, 1,005 was the maximum constant available. The high constants now used permit drafts up to 50 with ease, compared to the 20 draft maximum available with the 1,005 constant.

Waste Removal Systems

A word should be mentioned here about the pneumatic waste removal or broken end collector systems incorporated into the modern spinning frame. While these systems are not the product of the textile machine manufacturers, they are integral accessories and the machine must be designed to accommodate them. The systems used consist of a fan and collector box together with ducts running the length of the machine and smaller ducts leading under the drafting rolls to the yarn path. The scavenger roll formerly used to clean lint or fibers from the bottom front roll has disappeared, and the flat board clearers used for the two middle and back roll lines or all three lines have been replaced by one or two lines of revolving clearers.

Modification Of Spindles

Inspection of the modern spinning frame would not reveal the very extensive changes that have taken place in the spindles. A sharp observer would note that warp packages are being made with aluminum sleeve-type spindles instead of wood sleeves. Internally, however, the spindles have undergone extensive modification. In 1947, plain bearing spindles had been largely replaced by oil impregnated metal-type bearing designs. During the past ten years, these have been almost entirely supplanted by anti-friction type spindles. Depending upon the size of the load required and the amount of unbalance present in the bobbins, one of three types of damping mechanisms in the spindles can be used: (1) a cylindrical contact type which utilizes a flat spring in the spindle bolster to absorb vibration; (2) a ring-brake construction which has a higher vibration absorption capacity; and (3) the center-base type, recently developed, which utilizes six multiple and compound sliding surfaces plus oil cushioning and a coil spring. The modern spindle is, in a great many ways, a work of art, compared to its predecessor. It will stand a considerable amount of abuse and continue to run true and in balance. A great deal more could be said about the details of modern spindles, since they are truly one of the most important elements on the spinning frame.

The application of anti-friction bearings to the spinning frame was a logical development. In addition to their use on spindles, anti-friction bearings have been applied to tape tension pulleys, ring rail lifting rod truck rolls, and to the cam shaft. This is the large cam whose motion, transmitted through the builder mechanism, controls the rate and distance of the vertical motion of the ring rail and ultimately the shape of the package made.

The thought may occur to some that anti-friction bearings could logically be applied to the bottom rolls, inasmuch as the front rolls are now greased through a grease fitting on the front of the roll stand and the middle and back bottom lines hand lubricated. Leaving the cost of the bearings aside, several interesting problems arise.

On several occasions engineers from other industries visit our plants and always examine with considerable curiosity the construction and function of the bottom rolls on a spinning frame. First of all, these one-inch rolls are usually 45 feet long made in 40 to 50 sections screwed together. For satisfactory performance in spinning, the roll run-out should not exceed .003 inches. The rolls should continue to hold this run-out tolerance for sometimes as much as 20 years or more.

Moreover, the spinning frames may be installed on the top floors of 40-year-old buildings with uneven wood floors. It is not unusual to find floor variations of two, three or four inches in various parts of the room. Under those circumstances, anti-friction bearings on these long lines of rolls represent a serious engineering problem. Of course, every effort is made to line and level the frames so that at least on installation, the frames are accurately leveled. However, settling does take place in the course of time. The mill building is also subject to tremendous virbation because of the operation of other machinery, especially looms.

On a modern frame, springs are now used for counterbalancing the ring rail. The former practice was to use approximately 500 pounds of dead weighting mounted on the cross shafts. The spring counterbalancing technique now used eliminates this weight and results in a smoother motion of the ring rail, especially at the reversal positions at the top and bottom. On modern frames, the ring rails are now made of steel instead of cast iron. This improvement also has meant a reduction in weight.

In recent years, a great deal of study has been given to the design and manufacture of rings. These very important spinning frame parts are now made of specially made alloy steel designed to permit higher speeds than could be run ten years ago. Improvements in ring manufacture and metallurgy have resulted in shorter breaking-in periods for the rings, and fewer ends down.

While there has been little change in the type or size gears used on the spinning frame, a great many manufacturing improvements and the utilization of modern machine tools has resulted in better gears. Machine inspection for run-out is now standard quality control procedure, whereas ten years ago, simple tests were satisfactory.

Gears made to much closer tolerances could be employed if cost and commercial practice permitted. On some of our Whitin Up-Twisters for example, we manufacture very high precision gears which in a train of 16 gears have less

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Chicopee Mfg. Corp. (272,000 spdls.)
Clinton Cotton Mills (73,000 spdls.)

as well as to original equipment manufacturers.

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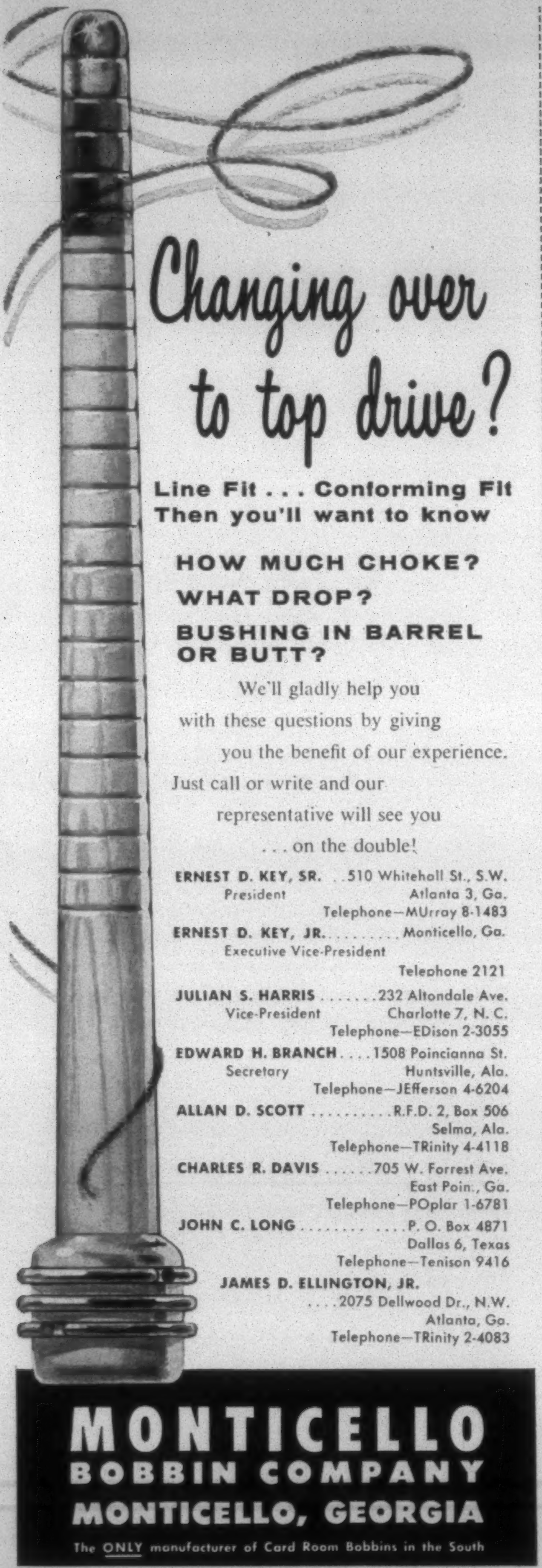

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than maximum allowable .050 inches backlash through the whole assembly.

Many small design changes, each important in the functioning of the mechanism involved, could also be mentioned. In the builder motion, a torsion spring is used to replace dead weighting. Cam outlines have been refined. In the head end, a chain drive from the cylinder to the jack gear supplants the long-used intermediate gear. On the present frame, a wide range drive which allows a 50 per cent variation in machine speed is commonly employed. This contrasts with the V-rope narrow range drive used ten years ago which allowed only a 15 per cent range in speed.

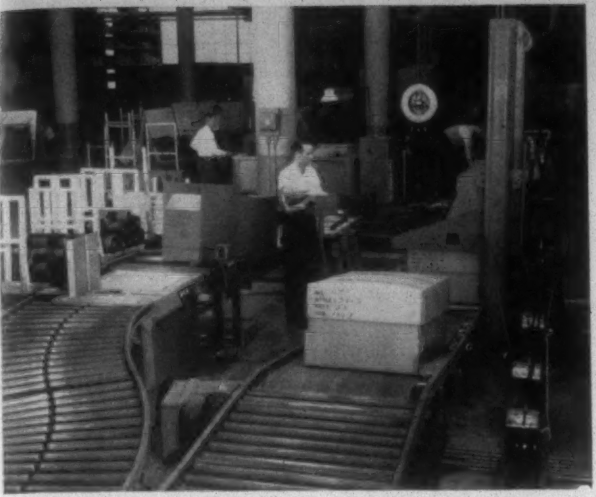
In concluding, I would like to call to your attention that the engineering changes and modifications of the spinning frame in the last ten years in the creel, the drafting system, the spindles, and the several design changes in frame mechanisms, plus the use of anti-friction bearings, gives support to the fact that automation has been gradually applied to this machine. Spinning has yet to reach the push-button stage, but in the past ten years there has been great progress made in decreasing human effort per pound produced. The yarn product is definitely superior in quality. Time and labor consuming motions have been reduced or eliminated. The spinning frame today is a great improvement over its predecessor of ten years ago.

Increasing Packaging Production

PACKAGING production at Dan River Mills, Danville, Va., has been increased 33-1/3 per cent by installing conveyor lines keyed to centralized steel strapping stations for closure, reinforcement and protection of boxed shipments of cotton cloth to manufacturers. The packaging system was introduced to Dan River by Acme Steel Co., Chicago, manufacturer of steel strapping and strapping tools.

The strapping stations consist of two Acme Steel push button strapping machines tied in with a system of powe and roller conveyors connecting packing, weighing, labeling and strapping operations directly to shipping rooms. Formerly, four men were required to handle the packaging of boxes. Now a single operator operates the strapping machines with push-button controls and weighs and labels the containers, releasing the additional manpower for reassignment to production operations.

The conveyor system is designed to permit the smooth and quick flow of containers from one station to another. The powered conveyors carry packed boxes past the various stages of the packaging operation. An electronically controlled chain belt interchange separates boxes, shunting larger sizes to a spur line which runs past a special strapping machine equipped with a compression device. Smaller sizes continue on the main line past a regular semi-automati



One operator controls both Acme Steel strapping machines. Parallel conveyor lines feed boxes to each machine according to the size of the box. The machine on the right has a compression platten to compress the boxes. Smaller boxes are fed to the machine on the left which compresses them by the pressure of the steel strapping.

strapping machine, on which compression is supplied by the steel strapping.

Crews packing cloth for shipment fold and place the material into telescope and regular slotted containers. The containers are moved to the next station for labeling and then to a third station for weighing. The operator at the scale controls movement of the conveyor.

After weighing, the packed boxes move to the strapping area. The main and spur conveyor lines leading to the strapping stations are parallel and strapping machines are positioned opposite one another so that the same operator can operate both machines simply by turning around. After inserting strap ends into guide lots, the operator controls the entire cycle of tensioning, sealing and cutting automatically. Overlapped ends of the tensioned strapping are sealed with two spot welds for neat, uniform joints. After strapping, the boxes are sent via power conveyor to an inclined roller conveyor which takes them to the warehouse or shipping platform.

In addition to this increase in efficiency and one-third more production in packaging, the new system reportedly reduces operator fatigue and results in better co-ordination between production and packaging operations.

Broad Woven Cotton Production Down

Cotton broad woven fabric production in the third quarter of 1957 was six per cent below the previous quarter and five per cent lower than the third quarter 1956 level, according to U. S. Department of Commerce figures.

The only major fabric class which did not decline from both the previous quarter and the third quarter in 1956 was towels, toweling and dishcloth fabric. This class increased three per cent from the second to the third quarter and four per cent over the third quarter 1956. All other fabric classes showed declines from the previous quarter ranging from three per cent for print cloth yarn fabrics to 15 per cent for napped fabrics, blankets and blanketing. They also showed decreases from the third quarter of the previous year ranging from two per cent for print cloth yarn fabrics to 18 per cent for napped fabrics, blankets and blanketing.

The Laurel Leaf

BUSINESS MAGAZINE EDITION

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Sampling Size

By BURTON CASE, Manager, Standards Dept., Huntsville Mfg. Co., Huntsville, Ala.

This article explains the specific problem of organization of a sizing program designed to be accurate to a given per cent. The whole subject of sampling size is far too large to be covered here but a workable method for solution of most sampling size problems is presented in terms which are easily understood.

THE subjet of sampling size enters into a wide variety of problems. Rather than discuss it in general terms the scope of this article will be confined to the specific problem of a sizing program for controlling weights on sliver, roving, yarn, etc. How many samples of drawing should be weighed and how often should they be taken? Before these questions can be answered two other questions must be resolved. What use is to be made of the results? How accurate does that use require that the results be?

Invariably, the final answer to the question—how many samples?—involves a compromise. Suppose a sample of drawing was weighed from each delivery every hour, on the hour, 24 hours a day. There would be no doubt as to how the drawing weights were running. At the same time, efficiency on drawing would be lost, there would be more splices to knock down ends in the spinning room and the payroll cost would be increased by the additional laboratory personnel.

At the other extreme, suppose a schedule of weighing four samples of drawing sliver once a week on Wednesday morning was set up. Very little information on drawing weights would be found by such a program. For most mills sampling every delivery every hour is more than is necessary. Also, for most mills four samples once per week is not sufficient for adequate control. Somewhere between those extremes is the correct sample size for most organizations.

The important question is—how can we arrive at the sample size that is correct for the individual mill? Several mill men were asked how they decided on the number of samples to weigh in their sizing schedule. Their answers included: (1) the superintendent felt that the number of samples being used was about right; (2) the schedule was established at some time in the past and no one has felt that a change was necessary; and (3) statistical analysis was used to determine the logical number of samples to weigh.

Regardless of which method is used, a certain amount of judgment must be employed in formulating the procedure. However, there is a comparatively simple way by which the mill can know how much accuracy is lost by reducing the number of samples—say from 30 samples a day to 20 samples a day. Or, going at it from another angle, after deciding on the degree of accuracy that is required a comparatively simple calculation will tell how many samples must be taken to get that degree of accuracy. With this information the mill is in a better position to determine a practical number of samples to test.

In a sizing program the objective is determining the average weight or average count of the stock being run. We will call this average X. Now, the average is the result which would be found if it were possible to weigh, accurately, every yard of stock being produced at any particular time. It is not, of course, possible to weigh every yard being produced, so a number of samples that is felt will give a good approximation of X is taken.

This number of samples will be called N. The formula for N is:

$$N = \left[\frac{TV}{E}\right]^2$$

The formula is a simple one containing only three unknown factors—T, V and E—each of which will be explained in the following paragraphs. The larger N is, the nearer the average of the group of samples will come to X. However, as was mentioned before, a compromise must be made to establish a practical value for N. The smaller N is made, that is the fewer samples that are taken, the greater will be the percentage of error.

The percentage of error will be called E, one of the factors in the formula for N. Deciding what per cent error to be allowed is primarily a matter of judgment. Suppose that the mill runs a 50 grain sliver. Also, suppose that due to differences in cotton from day to day, lack of complete moisture control at the pickers and for a variety of other reasons, one day the drawing will run 49 grains and the next day it may run 51 grains. This being true, it seems unnecessary to insist that daily sizing reports be more accurate than plus or minus two per cent.

There is one other item on which judgment must be used. This item is the probability factor. We will call this factor T. Our laboratory once picked up 20 samples of 40s yarn and found the average count to be 37s. When the report went to the spinning room, they picked up 20 bobbins for a re-check and found this group of samples to average the standard, 40s. The natural conclusion was that either the person weighing the yarn needed new glasses or some adjustment was needed on the scales.

Perhaps this is true and the laboratory report was in error but there is another explanation which is based on the laws of probability, or chance. Fig. 1 represents 72 samples of 50 grain card sliver. It will be noted that the actual weights on this sliver ran from a low of 46 grains to a high of 53 grains. The average of the 72 samples is 49.5. Now, suppose this represents a picture of the way the sliver is running and suppose, also, that 20 samples are being weighed per day. If 20 samples per day are tested long enough, one day all 20 of the samples picked up will be heavier than the average of 49.5 grains. This would not happen often. In fact, the mathematical odds are that it would happen only once every 4,000 years.

However, suppose 20 samples are picked up and 15 of them are heavier than average. Certainly that could happen more often than once every 4,000 years and when it did a distorted picture of the process average would be shown. Even though having decided that the mill can tolerate a certain per cent of error it must also be realized that occasionally, due to the laws of probability, or chance, a greater per cent error will be found.

To cite a concrete example, suppose that in setting up the drawing weight testing schedule the mill wishes to use a sample size that will give an accuracy within plus or minus two per cent. Also, suppose that the mill wishes its reports to reflect this accuracy 95 per cent of the time. Roughly, this means that, if running 50 grain sliver, weight reports will normally show between 49 and 51 grains. However, it must also recognize that, due to the laws of probability, the reports will get outside those limits one time out of 20 or about once every four weeks.

Getting back to the factors in the formula for the number of sizings required, the two per cent error which is allowed is substituted for E. Ninety-five per cent probability has been decided acceptable but this must be carried one step farther before the factor T can be found. The mathematicians have worked up a table of probability factors that must be utilized in finding T. From this table, the probability factor for 95 per cent is 1.960. This is the figure that will be substituted for T in the formula for finding N.

At this point, only V remains unaccounted for in the formula. This V represents coefficient of variation. Not too many years ago the term was practically unheard of in most cotton mills. Today, more and more mills are finding coefficient of variation to be the most useful method of describing weight variations. This is particularly true with respect to picker laps. Normally, coefficient of variation is known as CV%. As used in the formula, this has been shortened to simply, V.

The old method of calculating weight variation was to subtract the low from the high and divide by the average. This gave a picture of the difference between the two extremes but told nothing of the samples in between. Broadly speaking, coefficient of variation is an attempt to give a number of picture of how close all samples cluster around the average. In making this calculation, first we will take an assumed average and check the deviation from that average.

By just glancing at the chart (Fig. 1) it can be seen that the average is somewhere near 50 grains. Accordingly, we have used 50 grains as the assumed average and have assigned it a D, or deviation, of zero. The minus four at the top, opposite 46 grains, represents a deviation of four grains less than the assumed average. The three opposite 53 means a deviation of three grains heavier than the assumed average, and so forth throughout the column. We could have used 49 or 51 as the assumed average without affecting the final result.

Now that the deviation has been set up, the next step is to check the frequency. This is simply a tabulation of the number of samples of each of the various weights listed. For example, from Fig. 1, five samples weighed 46 grains; seven weighed 47 and so on. The total of this column is 72 which checks with the total samples weighed. This column is labeled F.

Gr.	Frequency	D	F	FD	FD²
46	xxxxx	—4	5	—20	80
47	xxxxx xx	—3	7	—21	63
48	xxxxx xxxx	—2	9	—18	36
49	xxxxx xxxxx xx	—1	12	—12	12
50	xxxxx xxxxx xxxxx xx	0	17	0	0
51	xxxxx xxxxx	1	10	10	10
52	xxxxx xxx	2	8	16	32
53	xxxx	3	4	12	36
			72	—33	269

Fig. 1

The next step in the calculation of V is to multiply the two columns, labeled F and D together. The results are listed in another column which is labeled FD, or frequency times deviation. For example, the —20 at the top of the FD column is found by multiplying five times minus four. This multiplication is repeated down the list of numbers. The FD column totals a negative number (—33). This means that the actual average is less than the assumed average of 50 grains. As brought out before, this actual average was 49.5 grains.

The FD² column is found by multiplying the D column by the FD column. The first number in the FD² column, 80, is found by multiplying the first number in the D column, minus four, by the first number in the FD column, —20. Similar calculations are made for the balance of the numbers in the column. The FD² column totals 269. This operation finishes the analysis of the chart and the totals are ready for use in the formula for V, which is:

$$V = \frac{100}{X} \sqrt{\frac{FD^2}{N} - \left[\frac{FD}{N}\right]^2}$$

Making the necessary substitutions of numbers for symbols, the formula becomes:

$$V = \frac{100}{49.5} \sqrt{\frac{269}{72} - \left[\frac{-33}{72}\right]^2}$$

This equation resolves to $V=3.79\%$.

Now, having found the V, coefficient of variation, we can complete the formula to determine the number of samples to take. In determining E, the per cent error allowed and T, the probability factor, it was necessary to use judgement. Also, a compromise had to be reached in getting extremely accurate information and setting up a practical, workable program. In determining V, there is no judgment and no compromise involved. V is just the result of applying arithmetic to determine the kind of job being done controlling weight variation. We have found T to equal 1.960, V to equal 3.79 per cent and E to equal two per cent.

Substituting in the formula:

$$N = \left[\frac{TV}{E}\right]^2$$

we find that

$$N = \left[\frac{1.960 \times 3.79}{2}\right]$$

and N = 13.8. Since it is not logical to take 0.8 of a sample the result for N rounds off to 14.

From the qualifications on the previous calculations we have determined that if 14 samples are weighed per day, every day, the average of those 14 samples will be within one grain of the actual average running. We also have recognized that with the use of 14 samples per day, about once a month the results of the tests will be outside the one grain accuracy limits.

It may be felt in some quarters that one grain does not give the accuracy needed. How many samples would have to be weighed to give an accuracy within half a grain or one per cent? Assuming that weight reports must be within one-half grain, 99 per cent of the time this means that the report accuracy would be outside the limits once every four months. The probability factor for 99 per cent is 2.576 (determined from tables). The coefficient of variation is the same as in the previous calculation. Substituting the new figures in the formula:

$$N = \left[\frac{TV}{E}\right]^2$$

$$= \left[\frac{2.576 \times 3.79}{1}\right]^2 = 95.3 \text{ samples.}$$

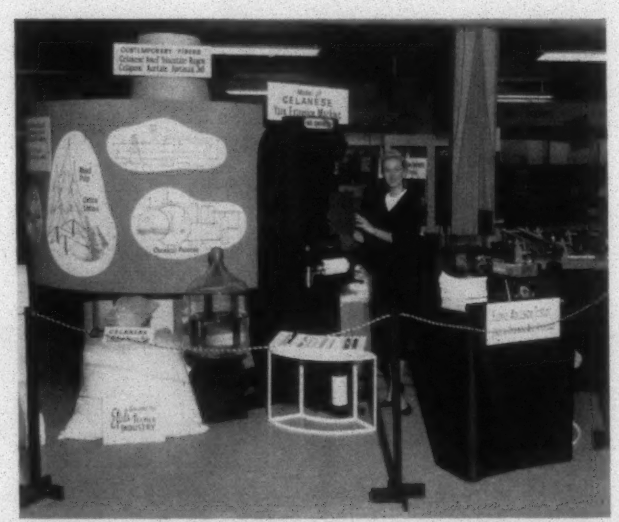
A SALUTE *to the textile industry*

☆ ☆ ☆

TEXTILE INDUSTRY customers in the Piedmont Carolinas got a first-hand look at the complexity of the textile processing story earlier this month in a mammoth exhibition of equipment in action at the Efird's Department Store in Charlotte. The event, hailed nationally as a merchandising first, was designated as "A Salute to the Textile Industry." Its purpose was to give the people of the Carolinas an insight on textile mill operations.

Equipment for spinning, weaving, knitting and finishing was on display, distributed strategically in each department throughout the store. In addition, all exterior window display space was turned over to the exhibit.

The idea for the salute developed last month when Efird's turned attention to promoting its annual After Christmas Sales. The initial plan was to put a loom on display in one of the sidewalk windows. The American Cotton Manufacturers Institute was contacted for counsel



Exhibits were placed strategically in every department of the store. One of the many contributing to the event was the Celanese Corp. of America.

A considerable amount of time, money and effort went into Efird's "Salute to the Textile Industry." This loom was put in place after store hours. Due to the weight of the equipment, it was necessary to shore up the windows before the machinery was moved in.

All of Efird's window display space was used to show textile machinery in operation. Highland Park Mfg. Co., with headquarters in Charlotte, furnished this loom and its operators.

and assistance, and from there the promotion mushroomed from a merchandising gimmick to a full-fledged public service salute to the entire textile industry.

Many firms offered to assist in the event in any way they could. Some which partitcipated included Highland Park Mfg. Co., Dan River Mills, Morgan Cotton Mills, P. H. Hanes Knitting Co., Waverly Mills Inc., Celanese Corp. of America, Parks-Cramer Co., Whitin Machine Works, Springs Cotton Mills, Scotland Mills Inc., Burlington Industries, Pneumafil Corp., Hall's Textile Machinery Co., Deering, Milliken Co., The Chemstrand Corp., Rock Hill Printing & Finishing Co., M. Lowenstein & Sons, Chadbourn Gotham Inc., Biltmore Industries, the North Carolina State College School of Textiles, Steadman Mfg. Co., Belrug Mills of S. C., Shuford Mills Inc., and others.

The management of Efird's was somewhat amazed at the response given their plan by the textile mills in the area. And they were as equally pleased by the public's response to the salute. Contacted as the promotion extended into its closing days, one Efird spokesman, obviously pleased with the sales volume enjoyed by the store during the two-week event, reported that plans were already in the making for a repeat performance, or several on a smaller scale, each pertaining to a single process and end-product—such as a wide sheeting loom for a tie-in with sheets; a circular hosiery knitting machine for a tie-in with stockings, etc.

While Efird's is pleased with the sales volume inspired by the "Salute to the Textile Industry," the participating firms themselves were delighted to have had the opportunity to put their best foot forward. To Efird's and all the participating firms, the industry owes a sincere vote of thanks.

A.T.M.A. Annual Meeting Announced

The annual meeting of the American Textile Machinery Association will be held Tuesday, February 4, at the Algonquin Club in Boston, Mass., according to James H. Hunter, A.T.M.A. president.

Robert C. Sprague, chairman of the board of Sprague Electric Co., North Adams, Mass., and chairman of the board of the Federal Reserve Bank in Boston, will be the chief speaker at the luncheon. The meeting will also feature reports from committee chairmen of the association on work during the past year. Future association plans will be outlined by President Hunter. According to custom, the A.T.M.A. meeting will be an executive session limited to its own membership. Following the annual meeting will be a meeting of the group's officers and board of directors.

School Of Textiles To Hold Open House

The School of Textiles of North Carolina State College will present its semi-annual "Open House" program Saturday, March 1. The program will include conducted tours through the school during which all phases of textile fabricating from yarn preparation to weaving, knitting, dyeing and finishing will be explained and demonstrated.

Exhibits from manufacturers in all branches of the North Carolina textile industry will also be on display. Fashion shows will be presented at 11 a.m. and 3 p.m. Entertainment will be furnished by a Raleigh dance studio.

Many colorful and useful items made at the State College School of Textiles and by North Carolina manufacturers will be given away throughout the day's activities.

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A.T.O.E. Members Discuss

- ✓ Cleaning schedule for spinners
- ✓ Additional cleaning assignments
- ✓ Overhauling spinning frames
- ✓ Nylon tape for spinning frames

One of the topics discussed at the Fall meeting of the Alabama Textile Operating Executives at Auburn had to do with cleaning schedules in the spinning room. Who cleans what? And how often? Other questions under discussion included the overhauling of spinning frames and the use of nylon tape for spinning frames.

Question No. 1—Give information on spinners cleaning operations and frequency of each.

Mill A: Cleaning schedule for spinners: (1) wipe back sides, front stands, Pneumafil flutes, flute hangers, weight wires and levers once each shift on the doff; (2) keep front sides clean at all times; (3) keep roving tails off of bobbin hangers at all times; (4) wipe base rails and spindle rails twice per shift; (5) clean the following on one frame each day: (a) bottom and top rolls and around aprons and cradles; (b) tape tighteners, weights, green boards and samsons; (c) front stands with stand hook; (d) spindle rails and base rails; (e) back stands and roving trumpet slides; and (f) roller bars and gear covers; (6) clean ring rails and separators with brush twice per week on each shift; and (7) clean under one side of spindles with roller picker while frame is stopped and clean all top revolving clearers every other week.

Mill B: (1) Wipe backs including flute hangers once per 120 hours; (2) brush base and spindle rails once per 24 hours; (3) run out guides once per 24 hours; (4) clean revolving front top clearers once per 240 hours; (5) clean roving traverse bar and gear covers once per 120 hours; and (6) fan and pick lint from frames when frames are blown off.

Mill C: Wipe roll beams and thread guides on all sides once per shift. Pass cleaner boards on all sides three times per shift. Clean lap sticks on all sides twice per shift.

Mill D: Run out guides every two hours.

Mill F: Pick top clearers on one-third of job once per shift. Run out guides every two hours.

Mill G: (1) Clean front lap sticks on all frames on job once per eight hours; (2) brush base rails on all of job three times per eight hours; (3) wipe backs, including gear caps and roving traverse on all frames twice per eight hours; (4) fan off on the doff on all frames once per eight hours; (5) pick separators on all frames once per eight hours; (6) wipe out front sides four times per eight hours; (7) clean revolving clearers on front and back flat clearers on one-third of the job per eight hours; (8) pick top rolls on one-third of job once per shift; (9) pick lint off front rolls on one-third of job per shift; (10) oil front top rolls on one-third of job per shift; (11) wipe roving boards and creel posts on one-third of job per 40 hours; (12) clean back scavenger rolls on one-third of job per 40 hours; (13) clean stands and necks on one-third of job per 40 hours; (14) pick roll weights, clean roving rods on one-third of job per 40 hours; (15) brush ring rails, clean traveler pin on one-third of job per week.

Mill H: (1) Run out thread guides four times per shift; (2) clean revolving front clearers one one-third of job per week; (3) clean revolving back clearers on one-ninth of job per week; (4) pick front roll stands on one-third of job per week; (5) wipe top roving boards on one-third of job per week; (6) wipe cap bars and roving guides on one-third of job per shift; (7) wipe roving rods on one-third of job per shift; (8) wipe bottom roving boards on one-third of job per shift; (9) brush base and spindle rail once per shift; (10) pick lifter rods once per shift; (11) clean under thread boards on one-third of job per shift; (12) clean out Pneumafil container four times per shift; (13) clean head and foot ends once per shift; (14) clean bottom front rolls on one-third of job per shift; (15) clean backs on one-third of job per shift; (16) clean Pneumafil flutes on one-third of job per shift; (17) pick lever screws on one-third of job per shift; (18) clean roll stands on one-third of job per shift; (19) knock out travelers on one-third of job per shift.

Mill I: (1) Run out guides four times per shift; (2) clean 25 per cent of lap sticks after each doff; (3) pick top back clearers once per shift; (4) pick top revolving clearers on one-third of job once per week; (5) brush ring rail and separators on one-third of job once per week; (6) wipe roving rods, traverse rods, roll bars and gear caps on one-third of job once per week; (7) clean roll beam, back

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guides, weight levers, weight screws and roll stands once per shift.

Mill J: (1) Brush rails every two hours; (2) wipe backs every four hours; (3) clean dog houses, roving traverse rods, roving creels, cap bars and thread boards on one-third of frames per shift.

Mill K: Run out thread boards every two hours and 45 minutes.

Mill L: (1) Run out thread boards every two hours; (2) pick revolving clearer spindles on one-third of job each shift.

Mill M: Run out thread boards every four hours.

Mill N: (1) Wipe Pneumafil flutes every eight hours; (2) remove waste from Pneumafil waste container every four hours; (3) run out thread boards once per shift.

Question No. 1 (a)—Give additional cleaning operations, not assigned to spinners, and the frequencies of these operations.

Mill A: None.

Mill B: Blow off frames once per week. Mop head and foot ends once per 24 hours. Pick rolls with mechanical roll picker every 168 hours on 25s and 30s and every 144 hours on 21s.

Mill C: The following operations are performed at intervals of once every third week: (1) pick back steel rolls; (2) pick front revolving top clearer; (3) clean top creel board; (4) clean cap bars, roving traverse rod and roving guide rods; (5) clean bottom creel board; (6) clean scavenger roll weights and levers; and (7) pick back revolving top cleaners. The front steel rolls and front stands are picked on one-third of the sides once per shift.

Mill D: Clean under guides every two weeks, brush spindle rails every four hours, wipe backs every four hours, clean creel rods, ring rails and separators every 60 hours, pick rolls every 24 hours and clean revolving clearers every 60 hours.

Mill E: Backs are cleaned and rails are brushed every 24 hours. Cap bars, roller bar, gear covers, etc., are cleaned once per week.

Mill G: None.

J. A. Quenelle, Avondale Mills' Sycamore (Ala.) Plant, led the overflow crowd of 450 in discussing spinning problems.

Mill H: Rolls are picked every other shift.

Mill I: Base rails and rockers are brushed once per shift. Rolls are picked once every 48 hours.

Mill J: Rollers are picked and top rolls oiled every 24 hours. Stands are greased every 120 hours.

Mill K: Rolls are picked every 24 hours. Backs, roller beams, stands, etc., are wiped every 24 hours. Creel boards top and bottom are wiped every 120 hours. Revolving top clearers are cleaned every 120 hours. Head ends of frames are cleaned out every 120 hours. Rocker arms and lifter rods are blown out every 24 hours. Back scavenger rolls are cleaned every 120 hours. Rails are brushed every 24 hours.

Mill M: Pick rollers every four hours. Wipe backs, roller beams, stands every 24 hours. Wipe creel boards top and bottom every 120 hours. Clean revolving top clearers every 60 hours. Clean back scavenger rollers every 60 hours. Brush head and foot end of frame every 24 hours. Clean out head end of frames every 120 hours. Blow off rocker arms every 24 hours.

Mill N: Clean top rolls—24 hours. Clean back scavenger roll—120 hours. Clean cap bar rods and racks—120 hours. Clean top revolving clearers—120 hours. Clean top flat clearers—24 hours. Clean ring rail and separator blades—240 hours. Clean bottom creel boards and middle creel boards or steps—120 hours.

Question No. 2—Give your procedure for overhauling spinning frames: (a) frequency of overhauling; (b) are cots rebuffed at same interval as frames overhauling or more often? (c) do you scrub steel rolls when overhauling?

Mill A: (a) We plumb spindles every two years and align and level frames at the same time. (b) We buff our rolls every four months. (c) We scrub steel rolls every four months also.

Mill B: We overhaul spinning frames once per year. (b) We buff front rolls every three months on filling and nine months on warp. Back rolls are buffed once per year on warp and filling. (c) We scrub steel rolls once per year.

Mill C: We overhaul spinning frames once per year. (b) Front roll cots are buffed once each six months and back roll cots are buffed once per year. (c) We scrub steel rolls twice per year.

Mill D: Our spinning frames are overhauled on a 12-month schedule. (b) We buff front rolls every six months. (c) We scrub steel rolls when overhauling the frames.

Mill E: Frames are overhauled once per year. (b) We buff our rolls more often. (c) We do not scrub steel rolls when overhauling.

Mill F: We overhaul our spinning frames every six months. (b) Our cots are also buffed on a six-month schedule. (c) Steel rolls on our spinning are scrubbed at the time of the overhauling.

Mill G: We align and level our spinning frames at two to three-year intervals. Spindles are plumbed every 12 to 18 months. The drafting system is cleaned every four to eight months. (b) We buff our cots every six to eight months.

Mill H: We overhaul our spinning frames after 7,200 hours of operation. (b) We buff cots after 3,600 hours of operation. (c) We scrub steel rolls at the time of the frame's overhaul.

Mill J: We have two cycles of overhauling each year. First cycle: (1) clean steel rolls; (2) replace worn aprons; (3) buff top rolls; and (4) set cap bars. Second cycle: (1) clean steel rolls; (2) replace worn aprons; (3) buff top rolls; (4) set cap bars, replace worn cap bars; (5) shellac creel, make any needed repairs; (6) line and level frame; (7) replace worn lifting rod bushing; (8) set and replace traveler cleaners; (9) plumb spindles; (10) overhaul head of frames, replacing all worn parts; (11) clean tank in Bijur oiling system; and (12) check all connections in oiling system. (b) all cots are buffed each year. When changing frames from coarse to fine numbers, we change line of top rolls.

Mill K: Our system for overhauling spinning frames is: (1) line and level frame; (2) line and level roller stands; (3) line and level cylinders and make any needed repairs; (4) remove all bad tapes; (5) set tape idlers; (6) motor base leveled and fastened down; (7) match belts in full sets on motor; (8) clean and level ring rail and traversing thread board; (9) set roving traverse and trumpet; (10) dismantle builder, clean and replace worn parts; (11) check jack gear and stud and cylinder gear; (12) check head end gear assembly and replace all worn parts; (13) clean Bijur pump and put in new filter; (14) adjust weight arms; (15) plumb spindles and set thread guide; and (16) flush bolsters every other round and refill. (a) Overhauling is done on a yearly cycle. (b) Front rolls are buffed every three months. Back rolls are buffed every six months. (c) Steel rolls are scrubbed when the frame is overhauled.

Mill L: Our frame overhauling is done by two separate crews. The spindle plumbers plumb spindles, flush oil out of bases, set traveler cleaners and guides on a yearly basis. The steel roll cleaners clean steel rolls, replace worn aprons, level and line frames, set roving traverse, set trumpets and check and replace worn gears, bearings and studs in head end. (b) Front rolls are buffed every six months and back rolls are buffed every 12 months. (c) Steel rolls are scrubbed every four to six months.

Mill M: We overhaul frames every 12 months. (b) The front rolls are buffed every three months and the back rolls are buffed every six months. (c) Steel rolls are scrubbed when the frame is overhauled.

Mill N: We overhaul our spinning frames every eight months. (b) The top rolls are buffed when the frame is overhauled. (c) Steel rolls are scrubbed when the frame is overhauled.

Question No. 3—Give the following information on spinner's job: (a) number of yarn; (b) type spindle used; (c) r.p.m. and diameter front roll; (d) actual turns twist per inch; (e) ring size; (f) traveler speed; (g) ends down per thousand spindle hours; (h) type roll drafting assembly used; (i) type suction cleaning; (j) size, weight and hank of roving package; (k) spindles assigned.

Mill	(a) Yarn No.	(b) Type Spindle	(c) F.R. r.p.m. and dia.	(d) T.P.I.	(e) Ring Size	(f) Traveler Speed	(g) e.d.p.t.s.h.	(h) Draft Assembly	(i) Type Suction	(j) Size-Wt.-H.R.	(k) Spindles Assigned
A	18/1 K. G.	Clutch	165—1"	14.14	2¼"	4,330 ft./min.	30.0	Roberts	Pneumafil	10x5—28 oz. 1.40 H.R.	1,890
B	14 F.	Conv.	205—1"	13.96	1⅝"	3,910 "	35	Dead wt.	"	12x6½—4.00 lb. .60 H.R.	2,148
	27 F.	Conv.	148—1"	19.37	1⅝"	3,910 "	35	" "	"	12x6½—3.90 lb. .90 H.R.	2,904
	21 W	Anti-friction	138—1"	20.25	2½"	5,825 "	35	Spring wt.	"	12x6½—4.00 lb. .60 H.R.	3,295
	31 W	Anti-friction	112—1"	24.19	2¼"	5,242 "	35	" "	"	12x6½—3.90 lb. .90 H.R.	3,754
C	17	New Era	151—1"	19.78	2½"	6,143 "	35	Whitin Casablanca	None	10x5—1.6 lb. .90 H.R.	1,920
D	30/1	Marquette	108—1"	22.46	2¼"	5,301	22	Whitin Superdraft	None	1.47 lbs. 2.00 H.R.	2,772
E	10	Whitin #4 Friction and Marquette Anti-friction Top Drive	165—1"	14.23	2½"	4,828	75	Superdraft	None	12x6½—60 oz. .60 H.R.	1,287
	15		146—1"	15.49	2½"	4,650	60	" "	None	12x6½—57 oz. .72 H.R.	1,779
	20		125—1"	21.24	2½"	5,459	60	" "	None	12x6½—53 oz. 1.00 H.R.	1,866
	27		105—1"	24.68	2½"	5,328	60	" "	None	12x6½—53 oz. 1.00 H.R.	1,976
F	3/.5 W	Whitin Conv.	135—1"	24.6	1⅞"	5,153	25	Whitin Superdraft	Pneumafil	12x6½—56 oz. .90 H.R.	3,432
	41 F	Draper Conv.	120—1"	25.3	1⅞"	3,600	45	Whitin Casablanca	None	10x5—26 oz. 2.00 H.R.	2,464
G	14	Saco-Lowell	154—1"	17.77	2 5/16"	5,530	70-80	Casablanca	None	11x5½—2.13 lbs. .80 H.R.	960
H	13.5	S.K.F.	162—1"	16.57	2½"	5,519	45	Whitin Superdraft	Pneumafil	12x6½—53 oz. .70 H.R.	4,158
I	8.75	Gravity	180—1"	13.30	2¾"	5,579	45	Whitin Casablanca	None	11x5½—2 lbs. .65 H.R.	1,120
J	14.5	Friction	149—1"	18.10	2⅛"	4,780	30	Duo-Roth	None	10x5—1.15 lbs. 1.65 H.R.	1,710
K	20	Anti-friction	134—1"	22.5	2¼"	5,495	38	2 Apron	Pneumafil	10x5—1.7 lbs. .90 H.R.	3,200
L	34.5 W	Anti-friction	121—1"	25.9	2"-1¾"	5,236-4,600	20-30	Whitin Superdraft and Roberts	Pneumafil	10x5—1.90 lbs. 1.50 and 1.25 H.R.	3,168
	34.5 F	Conv.	136—1"	21.4	1½"	3,625	20-30		Pneumafil	9x4½—1.33 lbs. 1.50 H.R.	3,000
M	13.75	Anti-friction	150—1"	17.5	2½"	5,720	40	Roth	Pneumafil	10x5—1.70 lbs. 1.00 H.R.	2,394
N	8	Marquette	194—1"	12.74	3"	6,073	30	Roth	Pneumafil	12x6—48 oz. .92 H.R.	1,368
	10.5	S. L. #6	183—1"	14.66	2½"	5,519	30	"	"	"	2,052
	12.5	S. L. #6	167—1"	16.13	2½"	5,519	35	"	"	"	2,280
O	7	Whitin	187—1"	11.25	3"	5,188	41	Whitin	Pneumafil	12x6½—50 oz. .60 H.R.	1,296

Question No. 4—Give your experience with nylon tape for spinning frames.

Mill C: We started using nylon tape only a short time ago. Our tests indicate less variation in spindle speeds but we have no figures available.

Mill E: Preliminary tests show nylon tapes have a life three times as long as cotton tapes. We find less slippage on new nylon tapes but have no information as to comparison of slippage of old nylon and cotton.

Mill J: We have four frames which have been running for 21 months and have lost only two tapes due to bad bonding. We are changing to nylon tape on whole jobs. We Strobotac our spindles each month and are unable to tell any difference in slippage. Our figures indicate that we save about $2 per frame per year on power. We are saving labor, cost of tape and are getting more production due to less idle spindles.

A Special Study
YARN TENSION
And Its Problems

PART THREE

By **JAMES R. WRIGHT**, **Product Engineer**
Uster Corp., Charlotte, N. C.

THE following is the correct procedure for measuring the amount of tension on winders and spoolers. A great deal depends on the type of the machine, the make, and the model. On the Abbot winder, tension is measured between the tension device and the winding drum. On the Universal Roto Coner, tension is measured between the tension device and the winding drum. On the Barber-Colman spooler, it is best to hold the head by hand, because of the traveling head (or knotter). Position the pulley just above the gate stop motion, holding it in the center of the yarn traverse. On other types of winders or spoolers, place the pulley between the tension device and spindle.

The following procedure is used when measuring tension on winders or spoolers: (1) position the head or pulley near the yarn; (2) place pulley directly in line with the yarn; (3) form an "S" turn by turning the head by hand around the pulley; and (4) turn chart motor on and choose the correct setting of the attenuator scale to give a good recording of the tension on the chart.

To get the initial analysis, measure the tension from a full to empty bobbin. After this has been done, a standard can be set for the proper tension. Only short checks are necessary after the standard has been set. The short checks are used to locate and correct bad tension conditions.

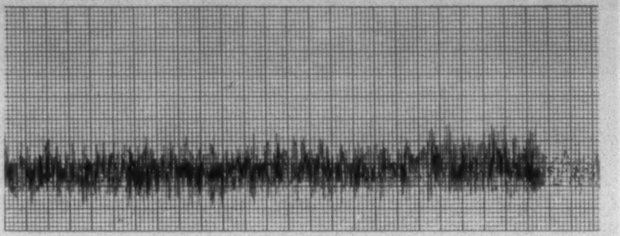


Chart No. 1—A good tension pattern from a Universal Roto Coner using a filling type wind supply bobbin.

Influencing Factors

Among the many factors which influence winding and spooling are: (1) winding speeds in yards per minute; (2) yarn specifications; (3) the type of wind on bobbin or tube; (4) length of stroke; (5) snick plate or slub catcher settings; (6) type of yarn guide; (7) package style or setting; (8) type and setting of tensioning device; and (9) kind of detector wires and stop motion arms.

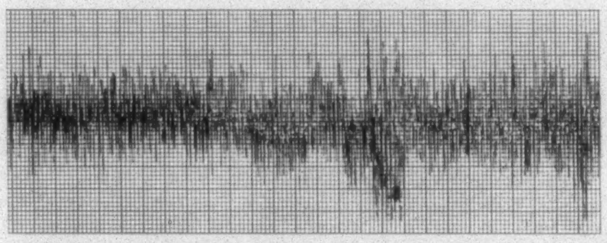


Chart No. 2—The high tension shown in this chart is caused by improper alignment of the spindle.

Improper slub catcher settings, incorrect tension devices, worn guides and many other troubles will reflect in tension variation of the yarn running at high production speed. Where a mill does package dyeing, oftentimes many off shades can be traced back to the improper tension caused by winding or spooling faults.

A good tension pattern from a Roto Coner Winder, using a filling type wind supply bobbin is shown in Chart No. 1. The high tension shown in Chart No. 2 is caused by improper alignment of the spindle. The tension pattern shown in Chart No. 3 results when the snick plates are set too close.

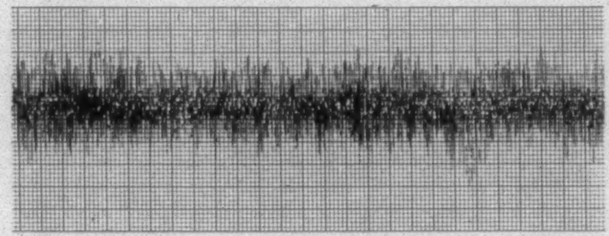


Chart No. 3—This tension pattern results when the snick plates are set too close.

It is very important that each mill make a test similar to the examples given, in order to determine which type of guides should be used and to get the best results from the yarn. Each yarn has different characteristics of size and finish and may require different guides. It may be discovered that the guides over which certain yarns are running do not make a great difference in the tension pattern. If this is the case, the most economical guide can be used successfully.

There are many tension devices used in quilling and they vary widely. It is possible with the Recordograph to choose the correct disc tension device for the different type yarns. The recorder head should be held by hand to check the quiller tension. Here again, the object is to maintain the correct tension from the start of the package to the finish.

Optimum Settings

In the compensating type tension device, it will be necessary to measure from full to empty on many different filling packages and supply packages to determine the optimum settings. Charts No. 4 and 5 show how the addition of weights on disc tension devices not only increase the maximum, but in many cases show a greater range of tension. It has been possible, in many cases, to reposition the center post to reduce the amount of tension.

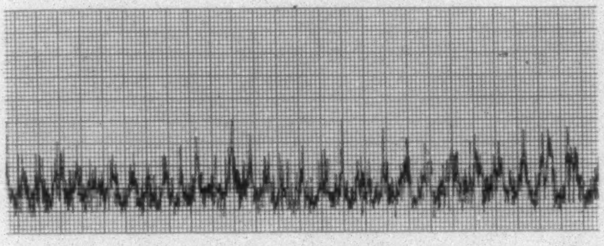


Chart No. 4—This chart shows the tension with a given weight on the tension disc. Note the tension peaks.

The stop-motion arms which are used on various types of quillers are positioned differently and have different effects on the amount of tension as the yarn is quilled. The stop-motion guide arms are made of either hardened porcelain, steel, polished chrome, etc.

While measuring the yarn tension it is important to dampen the effect of the stop-motion arm as much as possible. It is a simple matter to compare the different lengths of the stop-motion arm and, thereby, select the one that will give the best pattern of tension. Some of the most important things in quilling and shuttle tension are the stroke, length and type of wind. These features are outstanding in recording tension of the shuttle and quiller because they lead to sloughing and high variations in tension.

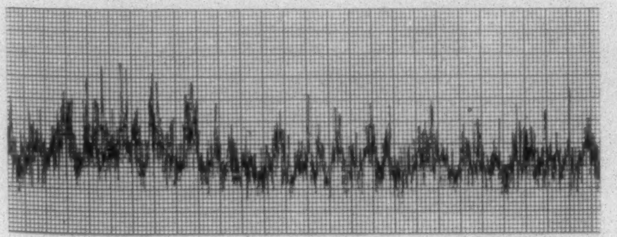


Chart No. 5—This chart represents the tension pattern shown by additional weight applied to the disc tension devices. Note the relatively higher peaks.

After a good job has been developed, it will then be very simple in many cases to change the other spindles to this type set-up by the use of the Recordograph. Holding the Recordograph head in the hand makes it easier to check from spindle to spindle. The next step is to check the shuttle tension. Then test quills should be run in the loom to check the appearance of the cloth.

Minimum Tension

Winder tension is applied to the yarn for only a fraction of a second because of the short distance between the tension device and package. Adding more than the required tension on the winder will weaken the yarn and increase breakage in the warping and weaving operation. The tension must be kept below the point where the yarn is weakened but above the point where faulty yarn breaks. The minimum desirable tension will break all weak places.

There are actually two tensions in winding yarn. One is due to the balloon coming off the bobbin. The other is due to the tension discs. The balloon tension will vary widely. The balloon runs much faster off a bobbin of small diameter than one of a large diameter. Also, there is greater tension with a long balloon coming from the base of the bobbin than with a short one coming from the tip of the bobbin. It is desirable to reduce the balloon tension to the lowest possible point and to rely on the disc tension, which is always uniform.

With the Uster Custom Tension Recordograph, it is easy to adjust the spindle or the supply holders to the correct position, thereby giving a more uniform tension. The instrument also assists in the selection of the proper discs to wind an even package on the winder. The slub catcher setting can be made more accurate to assure no scuffing or scraping of the yarn and still leave the maximum efficiency.

WINDER TROUBLE & REMEDIES

TROUBLE	POSSIBLE CAUSE	REMEDY
Spindle Creep	Worn Clutch Lever	Replace Lever
Corkscrew, Bobbin	Slipping Clutch	Clutch spring should be replaced or stretched
	Bobbin slipping on spindle	Bobbin may be worn, or incorrect spindle is being used
	Spindle may not be running true	Straighten spindle
	Bent traverse wheel	Replace
	Worn hub on traverse bar	Replace
	Dirt or lint in hub	Clean
	Incorrect adjustment of traverse tension spring	If too tight, wheel will bend; if too loose, it will spin
Incorrect build at base of bobbin or soft nose	Cop Former not set properly	Reset Cop Former
Bobbin not uniform from spindle to spindle	Cop Former	Check Cop Former adjustment on each spindle. Use gauge; do not try to set it by eye
	Traverse bar support not adjusted properly	Adjust support in proper position by loosening stud
Ridgy bobbins	Dirt or lint in traverse wheel hub	Clean with traverse wheel hub cleaner
Thread guide breakage	Guide is probably dropping on bare spindle	Check the setting of the adjusting screw on thread guide holder.
	Thread guide holder rest omitted	Use the rest

Overhauling

No matter how minor a part may seem or how inexpensive it is, an expense many times the original cost is incurred by failure to replace it promptly when necessary. In a properly operating winder, each part is of vital importance in relation to the others. For example, in replacing gears there is a chance of not having them mesh properly. Improper meshing of gears will result in noises and will cause excessive wear. If the gears are meshed too loosely, backlash will wear both sides of the teeth. Improper running out of any machine part affects the shape of the package. The yarn will be wound in jerks, resulting in alternately soft and hard winds.

With the use of the Recordograph, overhauling can be less expensive by overhauling only the parts needing it most. A complete overhauling job may be deemed unnecessary. The following items will cause improper tension in winding:

(1) Bad drive belt
(2) Belt too long or short
(3) Improperly adjusted pulley
(4) Improperly adjusted tension gates
(5) Improperly adjusted thread guide
(6) Improperly adjusted supply holders
(7) Improperly adjusted traverse of bar
(8) Improperly adjusted weight or worn tension discs
(9) Bad gears
(10) Trash or dirt in yarn path
(11) Worn slub remover
(12) Slipping drive roller

Warp Preparation & Weaving

T.O.E.G. Members Discuss

- ✓ Loom cleaning schedules
- ✓ Cleaning battery heads
- ✓ Plastic or molded shuttles
- ✓ How to stop slack selvages

What procedures do you follow in cleaning your looms? Who cleans your battery heads? What comparison can you make between molded or plastic shuttles as compared with regular dogwood shuttles? These were some of the questions reviewed at last Fall's meeting of the Textile Operating Executives of Georgia. In replying to these questions, Georgia mills and mill groups furnished the following answers.

Question No. 1—In cleaning your looms: (a) How often do you blow off your looms? (b) Do you have special cleaners for reed caps, lay ends and arches or does your regular blow off man clean these as he blows off looms?

Mill A: We blow off looms once every 24 hours. (b) The blow off man cleans lay ends, arches and reed caps.

Mill B: The loom cleaner blows off the arch and ends of the looms every eight hours. Then he gives the loom a good cleaning with compressed air whenever the warp runs out (averages once per week). (b) Our weavers clean off reed caps, lay ends and harnesses at the beginning of each shift.

Mill C: Drop wires and loom fronts are blown off every 24 hours. (b) Our weavers clean reed caps twice per week. Our lay ends and arches are cleaned once per week by the harness cleaners.

Mill D: We blow off arches, loom ends, front and back of loom, and blow out drop wires once per shift. (b) The weaver cleans the reed caps on his job once per shift.

Mill E: We blow off looms once every eight hours. (b) Reep caps, arches, etc., are cleaned by blow off man.

Mill F: Our looms are blown off and thoroughly cleaned at each warp out. (b) The loom cleaner cleans the entire loom.

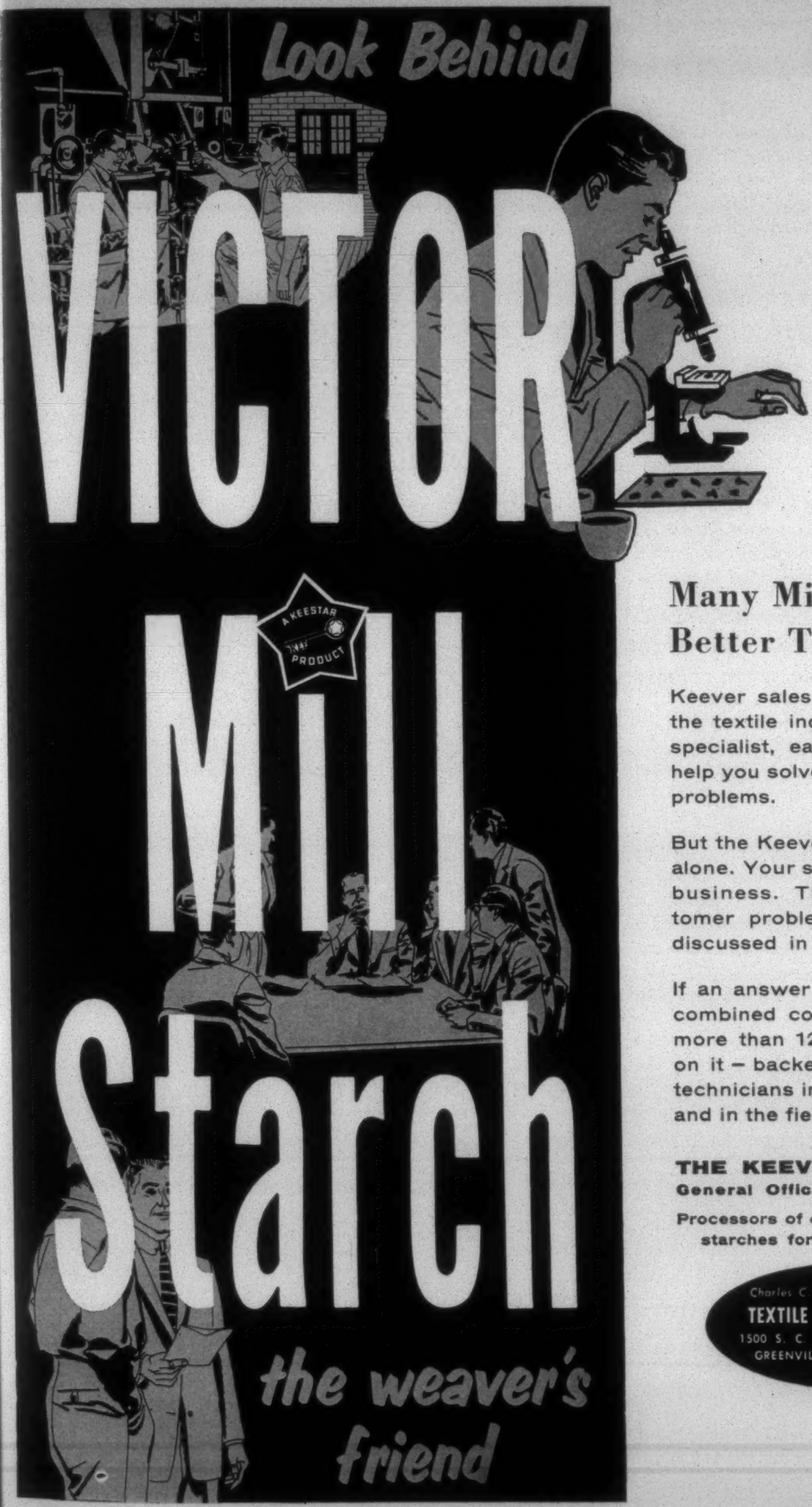
Mill G: We blow off looms once every 24 hours. (b) This cleaning is done by the blow off man.

Mill I: We blow off our looms once every 24 hours and do not have special cleaners for reed caps. (b) The weaver cleans the reed caps and harness. The regular blow off man cleans lay ends and arches when he cleans the rest of the loom.

Mill J: Our sweeper blows off the entire loom once per 24 hours. (b) Reed caps are wiped clean by quill strippers in their extra time.

Mill K-1: Looms with warps running three weeks or longer are blown off once per warp out. Looms with warps running less than three weeks are blown once per two warp outs. Drop wires are blown out once per 24 hours. (b) We have special harness cleaners. The regular blow off man blows off looms completely.

Mill K-2: Tops and ends of looms are blown off every 24 hours. The entire loom is blown off thoroughly at warp



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out. (b) Reed caps and lay ends are cleaned by the harness cleaner weekly. Arches are cleaned by the regular blow off man.

Mill L: We blow off looms twice per shift. Regular cleaning hands do all blowing off.

Mill N: We blow off looms once per shift. (b) We do not have special cleaners for reed caps, lay ends and aches. Regular blow off man cleans these as he blows off the looms.

Mill O: On jacquard looms we blow off every 24 hours. On others we blow off at warp out.

Mill P: Looms are blown off once per week for light styles of cloth. Looms with 80x80 and similar heavy styles are blown three times per week. (b) The regular blow off men blow off reed caps, lay ends and arches. We do not have special cleaners for these parts.

Mill Q: We blow off looms once each eight hours. (b) Regular man blows off reed caps, lay end and arches.

Mill R: Our blow off man cleans arches, lay ends, etc., as he blows off the loom once per 24 hours.

Mill S: All looms are blown off every 24 hours. Our regular blow off man blows arches and lay ends. Smash hands clean reed caps once every 24 hours.

Question No. 1—(c) Who cleans battery heads and how often? Who cleans loose threads from Stafford thread cutters and how often? (d) State type cloth woven.

Mill A: The battery hand cleans battery heads at warp out. Loom fixers clean thread cutter every eight hours.

Mill B: We run three shifts and the weavers are given one-third of the looms each to keep battery heads cleaned off. They do this every two days. They also clean loose threads from the thread cutters when necessary. (d) Osnaburgs, ducks and sheetings with filling numbers from 3.25s to 12.50s.

Mill C: Our battery hands clean battery heads once per week. The thread cutters are cleaned by the weavers each shift. (d) The types of cloth woven are drapery, upholstery, headlining, satins, broken twills and sheeting.

Mill D: Our weavers fill their own batteries. They clean battery heads daily and also clean threads from thread cutters. (d) We run Chafer fabrics.

Mill E: Battery hands clean heads once per eight hours. The weavers clean loose threads from thread cutters once per shift. (d) We run osnaburgs.

Mill F: Battery hands clean heads as needed. Loose threads on thread cutters are no problem. (d) We run hose and belt ducks, 16 to 41 ounces per square yard and asbestos.

Mill G: The battery hands clean one-third of heads per day. Thread cutters are not on a regular cleaning schedule. (d) Corduroys and osnaburgs are run in our mill.

Mill I: The loom cleaner takes the filling out and sprays the battery head at warp out. The weavers clean the loose thread from the Stafford thread cutters every shift. (d) We run tickings.

Mill J: Battery heads are cleaned thoroughly at warp out. (d) We run toweling.

Mill K-1: Battery fillers clean heads once per week. Loom fixers clean thread from cutter knife per 24 hours. (d) We run synthetic blends.

Mill K-2: Battery heads are cleaned at warp out by the blow off man. Then they are cleaned as necessary by the battery filler or by the weaver if he fills his own batteries. Loose threads are cleaned from Stafford thread cutters every shift by the loom fixer. (d) The types of cloth woven include wide sheeting, light weight sheetings for the bedspread trade, print cloth and various industrial sheetings.

Mill L: Battery hand cleans heads and quill man cleans Stafford thread cutters twice per shift. (d) We weave Chafer material and light duck.

Mill N: Battery hands and cam oilers clean battery heads. Weavers and battery hands clean loose threads from Stafford thread cutters. (d) Sateens and Type 4 twills.

Mill P: Regular cleaners are assigned the battery knobs so that all knobs are cleaned once each six weeks. The frequency of this will be determined by the filling counts and by the amount of yarn wrapped around the knob by battery fillers. (d) Our cloth ranges from light gauze up through 80x80 print cloth.

Mill Q: The regular blow off man cleans the battery heads and Stafford thread cutters once each eight hours. (d) We weave denims.

Mill S: Blow off men clean battery heads at warp out. Loom fixers clean loose threads from Staffords at the beginning of each shift. We weave drills, twills, sheeting and gabardines.

Mill T: Battery heads are cleaned when new warps are tied on. Quill men pull off and out all loose threads when taking up quills. (d) We weave drills, twills and sateens.

Mill U: Warp man cleans battery heads at warp out. Loom fixers pick threads from Staffords at the beginning of every shift. Staffords are also checked for proper operation at this time. (d) We weave print cloths, tickings and light drills.

Question No. 2—Give your experience with the plastic or molded shuttle as compared with the regular dogwood shuttle.

Mill J: We have recently installed a group of new looms with plastic shuttles and to date our experience has been very satisfactory. Cost is almost double but life should be more than double.

Mill K-1: In an experiment based on 25 shuttles we find that the life of dogwood shuttles is 1,400 hours and plastic shuttle life is 4,000 hours. The cost of the plastic shuttle is approximately twice that of dogwood. The use of plastic shuttles increases the replacement frequency of binders, box fronts and pickers. We notice no increase in the use of picker sticks and pick cam toes.

Mill N: We find the life of plastic shuttles to be approximately 5,000 hours as compared with 1,000 hours for dogwood shuttles. The molded shuttle cost is $1.39 per 1,000 loom hours. The dogwood shuttle cost is $2.16 per 1,000 loom hours. We noticed excessive wear on binders and box fronts at first but found that if boxes were correctly aligned and the loom did not have too much power then the wear was not excessive. Picker life seems to be shorter but we have no definite figures to support this. Picker sticks show no difference in life.

Mill O: We have found that the plastic or molded shut-

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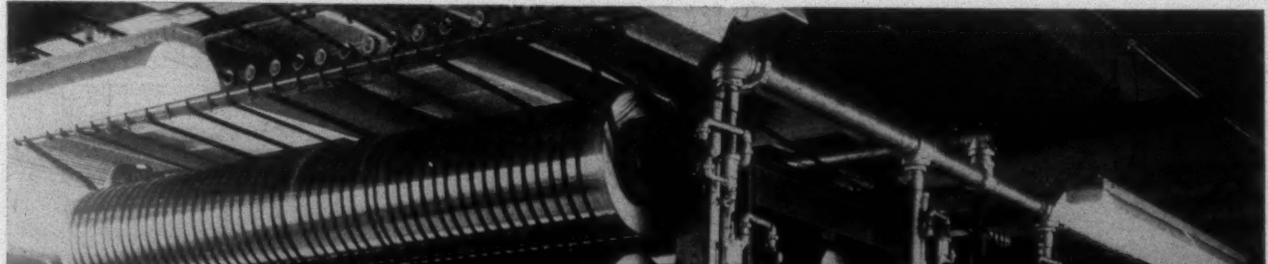

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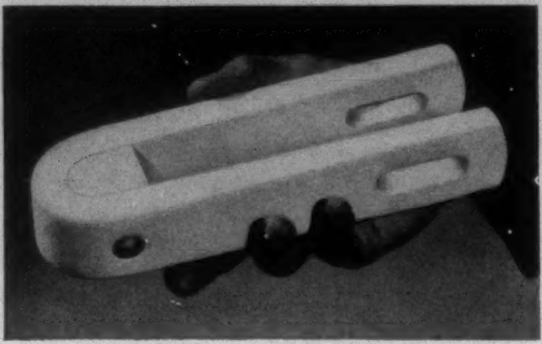

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tle has a life that is twice as great as the regular dogwood shuttle. The initial cost of the plastic shuttle is approximately 50 per cent greater. We have noticed no difference in the wear on binders and box fronts. The plastic shuttle is heavier and possibly there is more wear on the picker. We run the plastic shuttle with less power.

Mill P: We have run a small scale test with 25 molded shuttles with very good results. Our test indicated a 73 per cent improvement in loom hours was secured. Eight per cent of these shuttles are still running after 6,000 loom hours. The original cost of the molded shuttle is twice that of our standard dogwood shuttle. Binders, box fronts and pickers did wear faster with molded shuttles. We noted no difference in the life of picker sticks and pick cam toes.

Question No. 3—What do you recommend to stop slack selvages? What do you recommend to stop tight selvages and baggy cloth on synthetic ducks?

Mill D: To stop slack selvages we recommend: (1) forward motion of the lay to be the same on each side; (2) pressure of cloth roll against take-up roll to be equal on each side; (3) straight cloth roller; (4) good bearing for cloth roller; and (5) take-up roller should be properly set and in good bearings. Tight selvages and baggy cloth can be avoided by having good temples that will hold cloth out to proper tension. Avoid bad take-up fillet to prevent slippage. Experiment with selvage draw to prevent a tight selvage.

Mill E: We would recommend getting the correct temple for stopping slack selvages.

Mill G: Slack selvages can be stopped by leveling sand roller and keeping gearing and racks clean. Another important item is keeping the loom beam level.

Mill I: Slack selvages can be stopped by drawing more ends per dent in the selvages. Tight selvages are corrected by drawing fewer ends per dent in the selvages.

Mill L: Good beam warping and proper loom alignment are recommended to stop slack selvages. Tight or baggy selvages on ducks may be corrected by having good roll covering, temples in good shape and proper take-off.

Mill N: For slack selvages we recommend: (1) check loom beam to see that selvage ends are not too close to beam head and that they are not higher than the ends of the body of the cloth; (2) check cloth racks making sure that they go up the same distance on both ends; (3) eliminate crooked beam heads; and (4) counts of selvage thread to be heavier than counts in the body.

Mill S: We have found that slack selvages can be made by worn take-up roll covering, improper alignment of cloth traverse, stop motion, whip roll and take-up roll. Another thing to watch for is traverse springs that do not have any life. Waste in the traverse gears might cause them to hang. Tight selvages on synthetics may be overcome by using a different combination of selvages (tape or plain). Different methods in drawing the selvage may also help. When selvages are tight, the draw through the heddle and reed should be thinner. We also have had good success with additional take-up roll covering directly under the selvage. This also causes the selvage to have a cord effect.

Mill T: To stop slack selvages we recommend timing tape and harness correctly. In addition, the condition is helped by: (1) using good cloth tubes; (2) using good cones on sand rollers; (3) eliminating high selvages on beams; and (4) running the temple as low as possible.

Question No. 4—What is your experience in running Type 4 twills? What is your allowed yards per mispick? Do you have side fork or center fork looms?

Mill G: We allow ten major defects per 100 yards. We weave the cloth on looms with center forks at about 85 per cent relative humidity.

Mill N: We allow no more than one mispick per 100 yards. We have center fork looms and run about 85 per cent relative humidity.

Mill S: We allow one mispick per 25 yards. We have side fork looms. Our relative humidity is 88 per cent.

Mill T: We allow one broken pick per 44 yards. We have some center fork X, X-2 and XP looms and some side fork E Model looms. We run 86 per cent relative humidity.

Bleaching, Dyeing & Finishing

SOLVAY REPORTS ON ITS

Activated Hydrogen Peroxide Bleaching Process For Cotton

Solvay Process Division, Allied Chemical & Dye Corp., reports that interest is running high in its new activated hydrogen peroxide bleaching process. The process is available to bleachers under a royalty-free license.

A NEW method for bleaching cotton has been developed by the Solvay Process Division of Allied Chemical & Dye Corp. This method, referred to as the Solvay Activated Hydrogen Peroxide Bleaching Process, reportedly produces goods of better quality with considerable savings in bleaching chemicals, and at the same time produces goods of increased purity, higher whiteness, lower color reversion tendency, lower ash and metals content, and higher absorbency rates, even when moderately hard water is used. All of these characteristics are realized without harm to the goods.

The distinctive features of this new process include activation or pre-bleaching with sodium hypochlorite, usually after caustic purification, followed, without washing, by bleaching for shortened periods of time with substantially reduced quantities of hydrogen peroxide and additives.

Pre-Bleaching Stage

In adapting the new process no changes are necessary in the pre-bleaching operations normally followed in the mill. These commonly include singeing, desizing, caustic soda purifying and acid scouring.

Bleaching Stage

The hydrogen peroxide bleaching procedure commonly used in the cotton textile industry usually includes a caustic soda purification step prior to bleaching. In operations including caustic purification and washing, activation or pre-bleaching with sodium hypochlorite follows the washing and precedes the hydrogen peroxide bleaching. In mills not employing a separate caustic soda purification step, the sodium hypochlorite treatment is placed just ahead of the peroxide bleaching stage.

It is generally accepted that while improvement in whiteness is a basic requirement, it by no means represents the sole objective in bleaching. For example, extremely high whiteness is not worthwhile if it is obtained at the expense of degrading the material, decreasing the absorbency, causing high ash and metals content in the material, or requiring the use of highly purified wash water to remove chemicals. Insertion of the new Solvay bleaching step minimizes these undesirable effects and at the same time produces higher brightnesses at lower costs.

Advantages

Some of the advantages claimed for the process include: (1) reduction in quantities of hydrogen peroxide and additives required for a given bleaching operation; (2) improvement in the quality of the bleached cloth, i.e., by increasing whiteness, whiteness retention and absorbency; decreasing fiber degradation and ash and metals content;

and (3) minimization of the need of softened water in the bleaching process.

Details Of Operation

The hypochlorite activation or pre-bleaching step immediately precedes hydrogen peroxide bleaching. It involves saturating the yarn or cloth, for one minute at room temperature, with sodium hypochlorite of such concentration that, after squeezing, the cotton will contain about 0.10 per cent NaClO, a.d. basis. Following retention 10 to 20 minutes at room temperature, the material, without washing, is bleached for a shortened period of time with reduced quantities of hydrogen peroxide and additives — usually sodium silicate ($Na_2O.\ SiO_2\ .\ xH_2O$) and caustic soda (NaOH).

The concentration of the hypochlorite solution padded onto the cloth varies between one and four g.p.l. NaClO, depending upon such factors as cotton absorbency and saturator efficiency. Upon contact with the peroxide solution, all of the residual sodium hypochlorite in the goods is destroyed in accordance with the following reaction.

$$NaClO + H_2O_2 = NaCl + H_2O + 2(O)$$

The sodium hypochlorite should be prepared by chlorinating caustic soda. A small quantity of excess NaOH should remain in the NaClO to stabilize it, as directed in Solvay Technical and Engineering Service Bulletin No. 14, "Chlorine Bleach Solutions."

$$Cl_2 + 2\ NaOH = NaClO + NaCl + H_2O$$

The excess caustic soda in the sodium hypochlorite remains in the cotton after the NaClO is completely decomposed. This tends to minimize retention of silica complexes by the goods in the hydrogen peroxide bleaching step and to retard their deposition on peroxide bleaching equipment.

When sodium hypochlorite is prepared by chlorinating soda ash, an excess of Na_2CO_3 is desirable to insure stability. The excess alkalinity in the NaClO is therefore sodium carbonate (Na_2CO_3) and sodium bicarbonate ($NaHCO_3$)

$$Cl_2 + 2Na_2CO_3 + H_2O = NaClO + NaCl + 2NaHCO_3\ (+Na_2CO_3)$$

The Na_2CO_3 and $NaHCO_3$ remain in the cotton after decomposition of the NaClO by the H_2O_2, and the $NaHCO_3$ reacts with the NaOH of the peroxide bath to form Na_2CO_3. This promotes deposition of silica complexes in the cotton and on the equipment, and also either increases the water requirement for washing or increases the residual alkali content of the goods if the washing is inadequate.

Applications Of The Process

Cotton yarn and cloth both woven and knitted have been bleached successfully by the Solvay Activated Hydrogen Peroxide Bleaching Process. In the case of woven cloth bleached by the continuous saturator—J-box peroxide process, the hypochlorite step follows the washing after caustic soda J-boxing, and precedes saturation with peroxide plus additives.

Extra equipment includes a saturator and a J-box of sufficient size to provide the 10 to 20 minute contact time at room temperature. A saturator made of concrete and equipped with rubber squeeze rolls and a wooden J-box with a polyethylene sheet lining have proven to be satisfactory and economical; however, those fabricated of other resistant materials can be employed if desired.

In batch kier procedures, where the cloth is washed outside the kier and reloaded into the same or another kier, the hypochlorite step follows washing after kiering and precedes reloading. At this point the cloth is saturated with the required quantity of hypochlorite and put through the small J-box at room temperature prior to repiling mechanically with the peroxide liquor in the kier.

When the cloth is processed entirely in the same kier, i.e., not turned over, hypochlorite liquor at room temperature carrying the required quantity of available chlorine is introduced, following the caustic boil and washing. This is circulated for 10 to 20 minutes and then drained out. The peroxide liquor (with chemical components suitably reduced) is then introduced and the bleaching continued in the regular manner. The kier, pipe lines and pump should be resistant, or made resistant to hypochlorite; e.g., by painting with a mixture of cement and sodium silicate.

Knitted cloth and yarn, particularly when optical dyes are used, require special individual handling by formulations supplied by Solvay Technical Service.

Comparative Quality

Whiteness, whiteness retention, purity, absorbency and dyeability are increased. Ash and metal contents are reduced. Fluidity is satisfactory.

Peroxide Process	Chemicals Reduced	Whiteness	Absorbency	Ash %	Fluidity
80 x 80$^{\underline{4.00}}$ Cloth					
Activated	1/3	88.5	40.1	0.13	3.05
Regular	None	86.8	28.9	0.17	5.45
98 x 54$^{\underline{1.56}}$ Cloth					
Activated	1/2	80.2	19.9	0.17	2.1
Regular	None	76.7	16.6	0.26	2.0

Peroxide Process	Chemicals Reduced	Whiteness Retention		
		Originally	After 23 Weeks	Difference
80 x 80$^{\underline{4.00}}$ Cloth				
Activated	1/3	88.5	88.2	0.3
Regular	None	86.8	85.0	1.8

Moderately hard water can be used for washing, particularly final washing, without the reduction of absorbency which quite often occurs in regular peroxide bleaching.

Metals content of cloth, particularly silica, is reduced.

Metal	PPM in Cloth Activated	Regular
Silica, Si	60	340
Calcium, Ca	150	225
Magnesium, Mg	19	30
Iron, Fe	4.8	6.1
Manganese, Mn	0.9	1.0
Titanium, Ti	Trace	5.0
Chromium, Cr	Trace	2.0
Lead, Pb	Trace	1.0
Total	234.7	610.1

Pre-bleaching with sodium hypochlorite is safe. For example, in the bleaching of 80x80$^{4.00}$ cloth by the Solvay

Activated Hydrogen Peroxide Process with chemicals reduced one-third, prolonging the reaction time from 20 to 180 minutes does not degrade the cotton significantly.

The peroxide bleaching time can be reduced, permitting insertion of the NaClO step without prolonging over-all bleaching time.

Whiteness

The whiteness of the bleached cloth was determined on a General Electric reflectometer with a blue filter. The results obtained are expressed as percentage reflectance as compared with reflectance of magnesium carbonate. A whiteness of 86 per cent or higher is considered good for medium weight fabric. Whiteness determinations made after storage for various time intervals indicated improved whiteness retention characteristics.

Fluidity

The determination of the fluidity of cellulose dissolved in cuprammonium hydroxide or cupriethylenediamine solution is a very sensitive and accurate method for measuring the degrading effect of bleaching upon cotton. It is particularly effective in measuring the modification or degradation of the celluose fiber due to chemical processing and is largely independent of the fabric construction. This is a very useful test since the modification or degradation can be used to predict the effect of chemical treatments on the tensile strength and wearing qualities of fabrics. Fluidity values are measured in rhes (reciprocal poises). Values above six indicate degradation of the cloth fibers. Values below four indicate superior fiber strength.

Absorbency

The absorbency of the fabric was tested by fastening ½ inch strips, without stretching, between prongs projecting from the edges of two discs, spaced about six inches apart by means of a supporting rod passing through the center of each disc. There are enough prongs so that several samples may be tested at one time. With the samples in place, the whole assembly was inserted in a vertical glass cylinder containing one to 1½ inches of distilled water. A stop watch was started simultaneously with this operation and at the end of five minutes the height of the water absorption was measured by means of a transparent scale attached to the outside of the cylinder by flexible bands. The zero point was adjusted to the water level. Each 1/16-inch rise of water in the fabric denotes one point of absorbency. The test was conducted at 70° F. with the relative humidity of 65 per cent on conditioned fabric. Absorbency values for both the warp and filling of the cloth were determined and averaged.

Ash

The ash content was determined by charring samples of the cotton in a platinum crucible using a Meker burner, then muffling to constant weight. Although an ash content of 0.20 per cent is considered satisfactory, the lower the quantity, the better the cloth.

Silicon content of bleached cloth was determined by quantitative analysis. Other metals were determined spectrographically.

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by N. A. Truslow
Assistant Manager, Textile Development
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HANDBOOK OF TWISTING describes the fundamental principles as well as the practical application of dozens of different types of twisting machinery. The effect that twist has on different materials such as cotton, wool, nylon, Orlon, Dacron, viscose, acetate, glass, and asbestos is covered. Tables are presented in which the tensile strength, tear strength, yarn diameter, stretch and fatigue are related to the twist in the yarns.

The presentation in this book makes it useful for the practical mill man as well as the textile student. The old classifications dealing with cotton, wool, or silk manufacture have been done away with. In their place has been substituted certain basic precepts which are common to all systems of processing. This technique, therefore, is similar to chemical engineering, where instead of studying certain products, like the manufacture of gasoline, the basic operation, such as distillation or mixing, is studied. An approach of this type gives broader and more useful information than was possible heretofore. It is expected that this will make this book suitable as a text and it is noted that the deans of the textile schools recently stressed a need for books of this type.

This book contains numerous illustrations and graphs. It is complete with an index and a bibliography.

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Maintenance, Engineering & Handling

A Long Range Program

One Way To Modernize

By GEORGE V. FOWLER, Plant Engineer, Henderson Cotton Mills, Henderson, N. C.

Here's the story of a modernization program dating back to 1940. The information is taken from a paper delivered by Mr. Fowler before the Conference on Electrical Equipment for the Textile Industry sponsored by the American Institute of Electrical Engineers.

PRIOR to the year 1940, Henderson (N. C.) Cotton Mills felt the need of modernizing its entire electrical and mechanical systems, which included the transformer substation, electrical wiring, mechanical motor drives and switchboard which was fast being outgrown. During 1940, the modernization program was instituted and by degrees the changes necessary were made. The program moved forward rapidly and smoothly. Throughout the entire modernization program, which has run continuously throughout the years, the mill has never had to close down at anytime for this program to go forward.

In 1940 the transformer substation consisted of three 500 k.v.a. transformers, making a total of 1,500 k.v.a. furnishing the electrical energy of 3-phase, 6 cycles, 550 volts to the entire mill and, through step-down transformers, to 21 employee houses. Since that time, all but four of these houses have been torn down for expansion or sold to employees. This substation was 500 yards from the service entrance of the mill. Power was fed from the substation to the service entrance through 1,000,000 c.m. stranded copper cable, suspended on single cross armed poles of suitable spacing.

From the service entrance to the then so-called switchboard, the same sized main feeder cable was in open knob and tube-type wiring. The switchboard was three old-type oil circuit breakers mounted on slate panels which were in the machine shop. These breakers and personnel were protected by a wire cage enclosure. The entire mill wiring at that time was open knob and tube-type wiring. Almost every machine was belt driven from overhead line shafts and presented an unattractive appearance and a most difficult problem of good housekeeping.

The weave room consisted of 224 looms being driven from overhead line shaft by one 50 h.p. motor. It was soon learned that the motor was overloaded, and of course, gave considerable trouble. To step forward with the modernization program, it was decided to try individual electric motor drive on 28 looms, which consisted of one-half h.p. General Electric loom motors. Although this did remove a part of the overload on the 50 h.p. motor, it was found to be overloaded to the extent that 56 additional looms had to be removed from the line. A 20 h.p. motor was used to form another group drive. This left a total of 140 looms on the original 50 h.p. drive.

In 1944 the one-half h.p. individual drive motors had proven to be a great improvement over the line shaft. It was then that the mill decided to change all the remaining belt drives to individual drive motors. When this was accomplished, a great improvement in production and quality was noticed. Sometime later the looms were remodeled and the one-half h.p. General Electric motors were replaced with one h.p. Westinghouse loom motors and the speed on the looms was changed. At this time they are giving satisfaction and are comparatively trouble-free.

While the weave room changes were in process, the mill also undertook to revise the spinning rooms from overloaded group drives to individual motor drives and also change the knob and tube wiring into modern rigid conduit wiring. On the spinning frames, Westinghouse ten h.p. lint-free textile-type ball bearing motors and eleven 206 combination line starters and shipper rod operated drum switches were installed. The drives on these frames are of the flat belt type with vacuum cup motor pulleys. The installation of these motors and combination starters soon proved to be a trouble-free, profitable investment.

In 1941, the 1,500 k.v.a. substation was replaced with two 750 k.v.a. and one 650 k.v.a. transformers which totaled 2,150 k.v.a. capacity. The entire mill was rewired with modern rigid conduit wiring. As this changeover to rigid conduit progressed, each machine was wired with ample size wire and branch circuit feeders of ample wire size to the main service to allow for increased motor h.p. should the need be in the future.

The No. 2 Mill spinning room consisted of 48 spinning frames being driven by 7½ h.p. conventional-type motors. The original wiring for these motors was open knob and tube wired into cast iron, 30 amp. fuse boxes which sat on the floor. The 7½ h.p. conventional-type motors were replaced with the new Westinghouse ten h.p. lint-free textile-type ball bearing motors. Rigid conduit was run underneath the floor and stubbed up four inches above the floor. It was continued from there to the eleven 206 combination starters with No. 12-4 S.J. Neoprene cable.

While this was in progress the old-type oil circuit breakers, in the machine shop, were replaced in a new location with a Westinghouse modern air break-type switch gear, which consisted of five 300 ampere breakers. In 1947, we had outgrown the 1,000,000 c.m. service cable from the transformer substation. This was paralleled with an additional 1,000,000 c.m. cable on each of the three phases. The entire service cables were suspended on double cross armed poles and to prevent any one of the cables hogging the load, strips of 1/4x4-inch bus bar copper were clamped and connected to the two cables of the same phase at regular intervals.

Opening Room

The opening room was then changed from line shaft drive to individual motor drive controlled by magnetic starters and remote push buttons. The latest type opening hoppers were installed and the building was remodeled and expanded. Concrete flooring and steel beams replaced wooden materials.

The picker room was also changed to individual 7½ h.p. Westinghouse textile-type ball bearing lint-free motors with magnetic and electronic micro-switch feed control to keep a constant amount of raw stock in hopper at all times. In the meantime, a new and modern waste house made of brick and concrete was built. It replaced a wooden structure with the old screw-type press and line shaft drive. The new building was equipped with a modern hydraulic 100-ton automatic press with magnetic controls and perforated sheet metal trucks installed for the different types of waste. An original double cylinder air-lift dumping machine for rolling the truck on and dumping the loaded truck of waste into the press automatically is used.

Lighting Improvement

Lighting at that time consisted of incandescent lamps with green and white porcelain shades suspended from three-foot cords throughout the entire mill. This was changed to three 48-inch, 40-watt fluorescent units wired in rigid conduit. The lighting in the weave room was increased from eight to 32 foot-candles at the cloth roll level. A completely new heating system with thermostat control was installed. In addition, the mill replaced the wooden window frames with metal frames. All but the two bottom rows of window panes have blue glass to protect the employees from the glare of the outside light.

A program to further improve the quality of yarn and cloth was also started. When the new addition was completed, the mill installed 224 additional new X2 Model 40-inch Draper looms driven with the new Diehl clutch-type totally enclosed non-ventilated one h.p. motors being fed through rigid conduit beneath the floor in groups of 28. Each group is protected by a magnetic starter with push-button control. Each individual loom motor is protected with a Westinghouse 10-100 size 0 motor watchman with 1.5 heaters. The rigid conduit is stubbed four inches above the floor and from stubb conduit to the 10-100 switch. S.J. Neoprene four-wire cable was used to overcome the vibration between loom and floor. Also installed was Parks-Cramer frame and ceiling cleaning over spinning, interdraft and drawing frames. Large enclosures were built for the air-changer system which was put in operation.

Parks-Cramer Gradumatic atomizing humidifying system was installed throughout the entire No. 2 Mill, both weaving and spinning. This Gradumatic system controls outside louvers to the air changes which gives a very close tolerance of variation of humidity. This is very important for top quality production.

Transformer Inadequate

As these changes were made our transformer substation became inadequate and its capacity was increased to three 1,000 k.v.a. or a total of 3,000 k.v.a. This new substation was relocated to within 20 feet of a new service entrance and also a new and larger switchboard. This new power service consisted of an all-weather bus duct with 2¼x4-inch copper bus bars in parallel on each phase line within the all-weather duct. The power fed through this bus duct directly to a Westinghouse modern air-break switchboard which consists of a 4,000-ampere master breaker controlling five 800-ampere branch breakers, each with an interrupting capacity of 50,000 amperes.

The mill discarded 28 Whitin speeders with overhead belt drives and enlarged the building by some 10,000 square feet. The speeders were replaced with new Whitin Interdrafts with individual motor drives and rigid conduit wiring underneath the floor. Each group of these machines is controlled by a combination starter with an overload-type switch mounted on each machine for controlling each individual motor. These machines are equipped with individual predetermined knock-off counters to insure the same amount of stock on each frame when it is doffed. Thes frames are doffed into two small roving boxes hooked together. These boxes are taken directly to the spinning room and the spinner creels her frames from one of these boxes at a time, eliminating one handling of roving. This eliminates laying roving on top of frames to collect lint and create tangled yarn.

These boxes contain a smaller aluminum box underneath for the empty bobbins, thus the spinner pushes this box along in front of her until she has used up the full bobbins and filled up the small one with empty bobbins. Then she delivers this box to the spare floor and gets another one and starts over again. This is an original of Henderson Cotton Mills.

Boiler Room

The boiler room was modernized by installing a new 125 h.p. Scotch-Marine boiler and converting from coal-fired to oil-fired two 200 h.p. RD coal hand-fired boilers. Each boiler is controlled automatically by an electric eye. The eye controls the flame and double magnetrols control the water level. A siren is located outside and a bell in the engineer's office to indicate low pressure steam or low water in each boiler. These three boilers are tied together so that when either boiler separately cannot carry the load required, one of the other boilers will automatically come in and boost the load back to normal and then cut out again.

The Foster winders and overhead drives were replaced with new Roto Coner winders with individual motor drives and with individual magnetic breakers for separate protection. For better voltage regulation in the new addition, dry-type transformers were installed in a central location for the different groupings of the fluorescent lighting, 110-

volt receptacles and the 220-volt single-phase receptacles for the floor buffing machine.

All spinning was equipped with Whitin Superdraft and during this change-over, individual motor drives were included. Safety interlocked push-button controls are included on the frames. Pneumafil cleaning has been installed on all spinning frames.

Since 1951, the mill has purchased 50 new 312-spindle spinning frames of which the 20 most recent ones are equipped with the new Umbrella-type creel and anti-friction ball bearing spindles. They only need oiling once a year.

Alemite fittings were also installed on all roll stands. These stands only need greasing once a year.

The mill installed 109 cards, the drives being a combination of two h.p. motors and American Reduction drives. The only group belt drive remaining in the entire plant are the 143 cards with overhead belts. All motor driven cards have continuous strippers. Plans call for changing the remaining belt driven cards to individual motor drive in the near future.

Warp Preparation

The slasher room is equipped with a Cocker nine-can high-speed slasher with Brown Instrument controls and hydrometer recording clock for permanent records. The slasher has a 230-volt d.c. variable speed drive controlled by Moisturegraph instruments. This slasher replaced the old type Cohoes slasher which had one seven- and one five-foot cylinder. It was driven from overhead with no temperature or moisture control. That part of the operation was left up to the operator who used his own judgement as to speed, moisture and temperature.

Cloth from the mill's weave room and inspection department is conveyed to the basement storage and shipping areas by an automatically controlled cloth conveyor which may be operated from the first floor or basement, manually if desired.

Mr. Mueller, Miss Stevenson

SCHOLARSHIP AWARD—Curt Mueller, superintendent of dyeing and bleaching, Bibb Mfg. Co., Macon, Ga., had the honor recently of presenting the Scholarship Award of the Southeastern Section, American Association of Textile Chemists & Colorists, to pretty Paula Stevenson, a student at Georgia Tech. This is the second year in a row Miss Stevenson combined beauty and brains to win the scholarship.

Four new Southern elevators with push-button and automatic floor leveling controls were installed. They replaced the old belt-driven type elevator. The machine shop was also revised to include individual drives on all machines. The mill purchased a new 30-inch automatic quick-change South Bend lathe. All equipment was replaced to make it as modern and up-to-date as the machinery it is to serve.

The mill also has a new first aid room which includes the latest equipment. A registered nurse is in attendance to apply immediate first aid for any emergency that might arise.

To support its automatic sprinkler installation, the mill has installed a new 1,000 g.p.m. fire pump feeding from a 250,000-gallon reservoir. This is supplied with a four-inch line pumped from a lake one-half mile from the mill and a six-inch main coming from the city main. This pump is driven by a 100 h.p. motor controlled by an automatic control panel. A worthwhile feature of this control is that if the main breaker of the control panel coming from the substation outside the mill should open for any reason, the fire pump will operate if necessary.

Compressed air requirements also began to increase and to supplement the one 35 h.p. high pressure compressor and one 35 h.p. low pressure compressor, a 75 h.p. high pressure compressor, later a 100 h.p. high pressure compressor and an additional 125 h.p. 19x13 Ingersoll Rand low pressure compressor were installed. Thus the connected electrical load for compressed air has grown to approximately 375 h.p.

Warps and beams are handled by a combination electrical and mechanical system through the weaving, warping and slasher areas, thus eliminating any manual lifting. All warp beams are weighed while suspended on this track. Adams stop-motion controls are on all interdraft frames in combination with air cylinders for belt shifting on each frame, together with Parks-Cramer cleaning units which result in a higher quality yarn. A new and modern testing laboratory has been built. The entire laboratory is kept at a constant 70° F. and a constant humidity of 65 per cent.

Air press rolls have been insalled on all pickers for the purpose of making a more firm and uniform lap for better carding. Automatic Air-Loc sliding doors have been installed in the mill to eliminate the hazards of swinging doors. Opening rooms are equipped with Aldrich high speed Jet Cleaners and Aldrich Pepper Shakers for increased cleaning efficiency. These machines have built-in fluorescent lighting to aid in inspection and proper cleaning. The air from these cleaning units is returned to the opening room through the latest filtering equipment installed in the room.

The ten new Whitin Evendraft draw frames are controlled automatically. They use 18x42-inch cans. The amount of sliver in the can is electrically controlled to deliver the exact amount of sliver in each can. Each machine is equipped with Parks-Cramer traveling cleaners, one unit to five frames, individual Pneumafil units are centrally located on each machine.

Although these changes and improvements through the past 17 years, did at times, tax the company's electrical and mechanical departments, it has resulted in a smoother operating mill with very few unplanned shutdowns.

Promotions, Resignations, Honors, Transfers, Appointments, Elections, Civic and Associational Activities

PERSONAL NEWS

Germinal N. Giraudi

Germinal N. Giraudi, experienced textile consultant, has joined the Roberts Co., Sanford, N. C., maker of textile equipment, as a vice-president. In his new executive capacity, Mr. Giraudi becomes director of foreign operations and director of yarn and fabric development. A consulting textile engineer, he has traveled and worked extensively throughout the United States, Europe and the Far East. Now an American citizen, Mr. Giraudi was born in Geneva, Switzerland. He graduated from the Textile College in Biella, Italy, the University of Turin and the Ecole des Travaux Publics in Paris. In Italy he served as manager of the Cotonificio Carminati, general manager of the Cotonificio Gallo cotton and worsted mills, and as president and general manager of his own textile mill. He came to this country following World War II.

Walter M. Mitchell, vice-president of Draper Corp., Atlanta, Ga., has been named chairman of the board of the Federal Reserve Bank of Atlanta. Mr. Mitchell was also designated Federal Reserve agent for 1958.

R. I. Dalton Jr.

Robert I. Dalton Jr., Southern agent of the Charlotte, N. C., sales office of Whitin Machine Works, Whitinsville, Mass., is being transferred to the company's main sales office in Whitinsville to augment the firm's cotton machinery sales division. Succeeding Mr. Dalton at Charlotte will be J. Lawrence Orr, sales representative of Whitin's Spartanburg, S. C., branch office since 1950.

John J. Barnhardt Jr., for the last five years sales representative in Greensboro, N. C., for Du Pont's dyes and chemicals division, has been appointed manager of the textile section of the dyes division in Wilmington, Del. A native of Concord, N. C., he attended Woodberry Forest (Va.) School and Davidson (N. C.) College before graduating from Cornell University in 1942. After four years of military service, he joined Du Pont in 1946. . . . John M. Remsen, manager of the textile section of the dyes division for the last six months, has been named supervisor of dye sales in the Chicago district. A native of Wilmington, Del., he joined Du Pont after obtaining his bachelor of chemical engineering degree from Johns Hopkins University in 1941.

W. Gordon McCabe Jr., a vice-president of J. P. Stevens & Co. Inc., Greenville, S. C., has been named to the firm's board of directors. Mr. McCabe joined the company in 1948 and was made a vice-president in 1952. He is in charge of all cotton and wool procurement for the company and makes his headquarters in Greenville.

John W. Sanders Jr., formerly resident manager of Halifax (Va.) Mills, a division of Pacific Mills, has joined the staff of Werner Textile Consultants, New York City. Mr. Sanders will be assigned to the Werner office in Sao Paulo, Brazil, for the next 18 months. He had been resident manager of Halifax since 1952.

Ellis Johnson has been appointed Southern sales representative for Star Woolen Co., Cohoes, N. Y. Mr. Johnson will make his headquarters in Atlanta, Ga. A graduate of North Carolina State College, he has served with Robert & Co. Associates of Atlanta, Ga., as consulting textile engineer, and has held supervisory positions with Burlington Mills and Reeves Brothers Inc. He assumed his new duties on January 1.

Sydney P. Munroe, vice-president and general manager of Gambrill & Melville Mills Co., Bessemer City, N. C., has been elected president of the company. Mr. Munroe has been with Gambrill & Melville since 1955. The company manufactures wide cotton sheetings.

David T. Barry of Dover, Mass., formerly director of marketing for Stowe-Woodward Inc., Newton Falls, Mass., has been appointed to the newly-created post of general sales manager of the company. In this new post, Mr. Barry will supervise and ad-

DIXON CORP. ANNOUNCES EXPANDED LINE—At a recent sales meeting for all its textile sales representatives, the Dixon Corp., Bristol, R. I., announced that it is now fully prepared to make complete Saddle Guide changeovers for spinning frames from the roller beam up.

Originator of famous Dixon Saddles, the Dixon Corp. has, in recent years, been marketing anti-friction spinning frame top rolls and weighting devices. Since 1954 when the Dixon Saddle Guide top roll arrangement was introduced, more than a million and a half spindles have been purchased by leading textile mills and spinning machinery manufacturers. Dixon is already installing complete Saddle Guide changeovers, including all top rolls, bottom steel rolls, roll stands, cradles and gearing.

Attending the sales session in Bristol were *(first row, left to right)* E. K. Ephraim, foreign sales; R. E. L. Holt Jr., manager of Southern sales; Brad Dunson, South Carolina; Floyd New, regional sales manager; Warner Tabor, the firm's chief engineer; *(second row, left to right)* Ward Bushee, Georgia-Alabama; J. G. Skinner, North Carolina-Virginia; A. M. Romero, South America; Robert Rulon Miller, president of Dixon Corp.; Miss Therese Marrocco, chief draftslady for the firm; and Robert K. Campbell of the Dixon sales department.

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minister all sales functions for the company's custom rubber-covered roll division which manufactures rolls for the textile industry. Mr. Barry graduated from the University of California in 1938 and, before joining Stowe-Woodward Inc. in 1957, served as sales manager for the paint brush division of the Rubberset Co.

Edward P. Taylor has been appointed treasurer of Industrial Rayon Corp., Cleveland, Ohio. He was formerly secretary-treasurer and a director of Twin Coach Co. A graduate of Northwestern University where he earned a degree in commerce with a major in banking and finance, Mr. Taylor joined Twin Coach in 1933. He was elected assistant secretary in 1936, treasurer in 1938 and secretary, treasurer and director in 1941. He has also held various executive positions with subsidiary companies of Twin Coach. In his new position, Mr. Taylor will be located at the general offices in Cleveland.

Warren J. Simonds, assistant to the president and a director of Rodney Hunt Machine Co., Orange, Mass., retired recently after 37 years with the firm. A graduate of M.I.T., he was a civil engineer at the time he joined Hunt in 1920. He is the holder of more than 15 patents.

M. V. Macfarlan

Malcolm V. Macfarlan has been named to the newly-created position of general sales manager for the rayon division of American Viscose Corp. Formerly field sales manager, Mr. Macfarlan now assumes responsibility for all the rayon product and sales service groups in the New York City office, as well as for the branch offices. He joined American Viscose in 1945 as assistant manager of rayon sales, and in 1951 was named manager. In 1956 he was promoted to field sales manager, the post he held until his recent promotion. He formerly served as vice-president of Douglas Walker Co., and as assistant director of cotton and synthetics, textile division, War Production Board.

Robert V. Dallis has been named manager of the Atlanta, Ga., office of the U. S. Gauge Division of American Machine Metals Inc., Sellersville, Pa.

Several personnel changes have been announced by the American MonoRail Co., Cleveland, Ohio. H. A. Rehfeld has been promoted to sales manager of the Eastern division, replacing W. P. Conway, who resigned the position to take over as general manager of the Production Equipment Co., Meriden, Conn. Mr. Rehfeld was formerly manager of the Atlantic District. Previously he had worked for The Louden Machinery Co. and the Link-Belt Co. L. R. McEachern has been appointed sales manager of the Southeastern division. He was formerly district manager of the Greenville, S. C., office.

Demont Roseman Jr., former business editor of the *Charlotte Observer*, has been named associate editor of TEXTILE BULLETIN. Mr. Roseman, a journalism graduate of the University of North Carolina, is widely known among North Carolina mill men. For 3½ years prior to joining the *Observer* staff, he was North Carolina bureau correspondent for *Daily News Record*. Prior to that he was for 5½ years with the Rocky Mount, N. C., *Evening Telegram*. A native of Salisbury, N. C., he is married and has two children. He will continue to make his headquarters in Charlotte where for more than three years he has served as secretary-treasurer of the Greater Charlotte Textile Club. With his broad journalistic experience and familiarity with the textile industry, Mr. Roseman is a welcome addition to the staff of TEXTILE BULLETIN.

William S. Johnstone has resigned as sales representative of the Graton & Knight Co., Worcester, Mass. With the company for many years, Mr. Johnstone made his headquarters in Greenville, S. C. He has not yet announced his plans for the future.

The Greenville, S. C., Blue Ridge Council of Boy Scouts of America have named a number of textile executives to office in the council. Named council vice-president was R. A. Taylor, vice-president of Norris Cotton Mills Co., Cateechee, S. C. Named members-at-large of the executive board were W. Gaines Huguley, president of F. W. Poe Mfg. Co., Greenville; C. R. Walters, vice-president of Abney Mills, Greenwood, S. C.; R. P. Hardeman, general manager of the Ware Shoals (S. C.) Division of Riegel Textile Corp.; and T. A. Folger, vice-president and secretary of Norris Cotton Mills Co. Named a district chairman was A. B. Calhoun, president of Equinox Mill at Anderson, S. C.

Herman A. Dickert

Herman A. Dickert has resigned as director of the A. French Textile School of Georgia Tech to assume full-time teaching duties in the school. Until a permanent appointment can be made, Dr. J. L. Taylor will be acting director. Before giving up his post, Mr. Dickert made known that the textile engineering curriculum has been accredited for a three-year period. Mr. Dickert is a past president of the National Council of Textile School Deans, predecessor of the National Council for Textile Education. He graduated from the University of North Carolina in 1923, where he majored in industrial chemistry. He was with the Du Pont Co. prior to oining the staff at Georgia Tech. He holds an honorary degree from Newberry College.

John K. Willet has been promoted to the position of superintendent of Cannon Mills Co. Plant 8 in China Grove, N. C., succeeding K. A. Shinn of China Grove, who recently retired. Raymond Farabee of Kannapolis, N. C., has been named assistant superintendent of the plant, succeeding Mr. Willet.

Dewey H. Nelson has been promoted to assistant manager of the Becco Chemical Division, Food Machinery and Chemical Corp., Buffalo, N. Y. Mr. Nelson will continue in the capacity of sales manager, a position he has held since November 1956. A graduate of M.I.T., he joined Becco in 1947, working first in the company's special projects department and later in the research department. In 1956 he was made assistant to the sales manager.

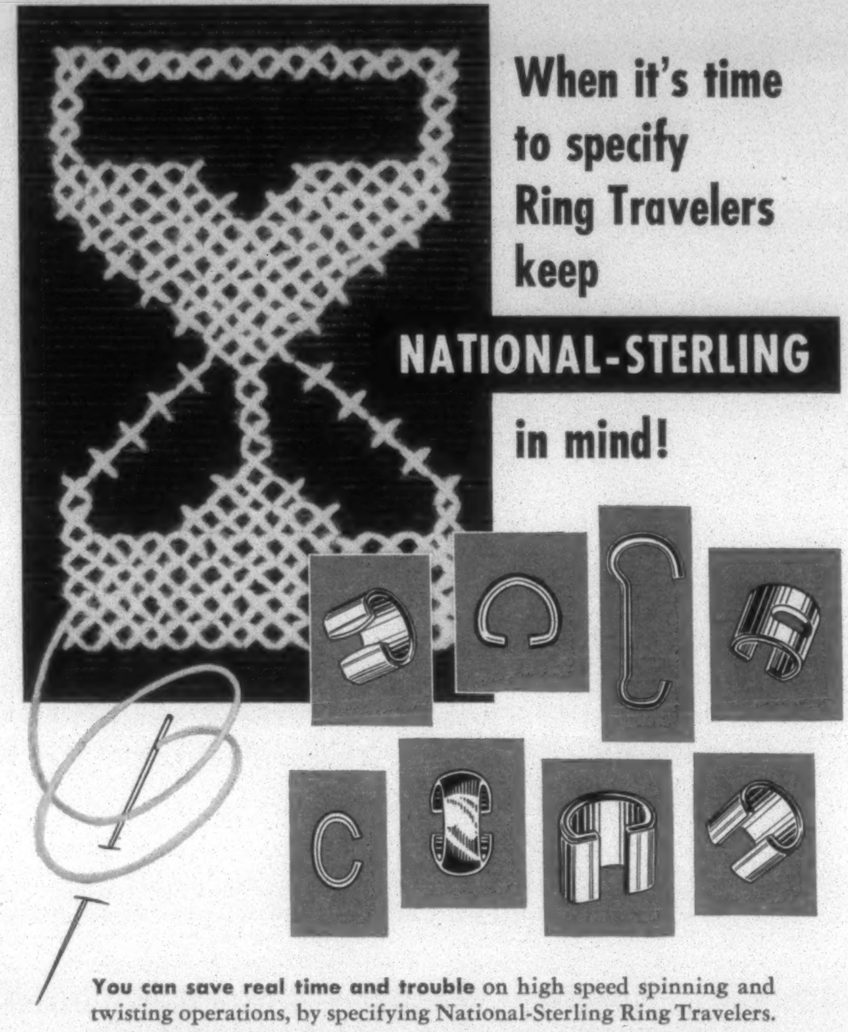
Three promotions have been made at Excelsior Finishing Plant, Pendleton, S. C., branch of Excelsior Mills Inc., Union, S. C. . . . James D. Anderson has been moved up from assistant overseer of dry finishing to overseer of final inspection, following the resignation of Robert E. Pruitt. . . . Richard A. McCelland succeeds Mr. Anderson as assistant overseer of dry finishing. . . . Charles W. Fagan has been named assistant overseer of wet finishing.

Marvin H. Smith

Marvin H. Smith Jr. has joined Southern Sizing Co., East Point, Ga., as director of research and product development. Mr. Smith was formerly with the research department of Emery Industries Inc. and The Springs Cotton Mills. He graduated from the Georgia Institute of Technology in 1949 and is a member of Phi Psi textile honorary fraternity, and the American Association of Textile Chemists & Colorists.

Mills Clark has been appointed to the sales and merchandising staff of the fibers division of American Cyanamid Co., New York City. Mr. Clark previously worked for the Virginia-Carolina Chemical Corp., New York, where he held a post in sales and sales development of Vicara protein fiber in the knitwear field. In his new post, he will serve the knitwear and simulated fur fabric markets in sales, sales development and merchandising of Cyanamid's Creslan acrylic fiber. He is a graduate of the Philadelphia Institute of Technology.

Dr. Charles J. Geyer Jr. has been appointed director of the technical and textile service department of American Viscose Corp., Philadelphia, Pa. A graduate of Hampden-Sydney College and the University of Virginia with B. S. and Ph. D. degrees in chemistry, Dr. Geyer joined American Viscose as assistant chemist at the Front Royal, Va., rayon plant in 1941. In 1949 he was made assistant to the corporation's chief chemist and in 1952 was named manager of the corporation's technical department. Last May he was appointed as-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sistant director of the newly-created technical and textile service department. . . . Karl M. Currier, formerly director of the technical and textile service department, will report to the company's president on special projects until his retirement June 1. A graduate of the University of Maine with a B. S. degree, Mr. Currier worked with International Paper Co., Oxford Paper Co., National Aniline and Chemical Co. and Jessup & Moore Paper Co. before joining American Viscose in 1931 as a technical representative. In 1939 he was made assistant manager of the sales development department and in 1946 was appointed assistant director of the textile research department. He became director of the department in 1955 and was made director of the technical and textile service department in 1957.

G. L. Vernon

G. L. Vernon recently retired as superintendent of the Russell Mfg. Co.'s No. 4 mill in Alexander City, Ala. Mr. Vernon began as an oiler in the spinning room of one of the Russell plants in 1918. He rose to section man in the spinning room, to overseer of spinning in one of the plants, to assistant superintendent and finally, to superintendent of Mill No. 4 in 1946.

Edward A. Dawson, executive vice-president of Turner Halsey Co., New York City, and a veteran of 45 years in the textile industry, has retired. Mr. Dawson, who will continue as a board member and consultant, had been with the company since 1915 and a vice-president since 1937. He has been identified with many activities in behalf of the cotton duck category and played an important part in bringing standards to the duck trade. He was also a member of the arbitration board of the Association of Cotton Textile Merchants of New York.

Walter W. Finke, president of the Datamatic Division of Minneapolis-Honeywell Regulator Co., Newton Highlands, Mass., has been elected a vice-president of the corporation. Mr. Finke will continue as head of Datamatic, which is producing large-scale electronic data processing systems in the $2.5 million category for office automation. Before assuming direction of Datamatic in 1955, he served with the parent firm, Honeywell, in executive positions from 1950.

The election of Walter F. Wolfe as vice-president and Albro N. Dana as assistant treasurer of Indian Head Mills, Inc. was recently announced. Mr. Wolfe is general manager of the company's Franklin Process Division, Greenville, S. C., which operates yarn dyeing and finishing plants at Providence, R. I.; Philadelphia, Pa.; Greenville, S. C., and Chattanooga, Tenn.; and a spinning mill and yarn bleachery at Fingerville, S. C. He was president of Franklin Process Co. at the time it was purchased by Indian Head. Mr. Dana, formerly senior vice-president and treasurer of Franklin, will continue to serve as principal financial officer of the Franklin Division.

John L. Sherrill has been named superintendent of the Pineville (N. C.) Plant of Cone Mills Corp., succeeding V. R. Revels, who recently retired. Mr. Sherrill is a graduate of North Carolina State College with a B. S. degree and of Duke University with a B. A. degree. He was in the cost accounting department in the company's main office from 1952 until 1954. He belongs to the Greater Charlotte Textile Club and the Southern Textile Association. Hoyt Wiggonton succeeds Mr. Sherrill as assistant superintendent. He was in the time study, cost accounting and personnel work at Dwight Division of the company in Alabama City, Ala. He holds a B. S. degree in business administration from Alabama Polytechnic Institute.

L. G. Hardman Jr.

L. G. Hardman Jr., president of the American Cotton Manufacturers Institute, and president and treasurer of Harmony Grove Mills Inc., Commerce, Ga., has been elected to the board of Georgia Power Co. Mr. Hardman is also president of the First National Bank of Commerce and a former president of the Georgia Cotton Manufacturers Association.

J. I. Pettit has been appointed assistant to the technical superintendent at the American Viscose Corp. plant in Fredericksburg, Va. Mr. Pettit has been with Avisco for 17 years. For 14 years he was chemist and technical supervisor at the Marcus Hook, Pa., plant and for one year he was staff project chemist at the same plant. He spent two years at the Fredericksburg plant as technical supervisor.

Julius T. Pickard, assistant overseer of the dyeing department of White Oak Plant of Cone Mills Corp., Greensboro, N. C., has been named overseer following the retirement of John E. Armfield. Danah Prevette, assistant overseer of weaving, second shift, will take over the same position on the first shift following the retirement of William Hayes, assistant overseer on the first shift.

E. B. Shaw has been elected executive vice-president of the American Thread Co. Mr. Shaw is also a director of the company and since 1953, has been its vice-president in charge of manufacturing. In his new position he will be responsible for the thread company's manufacturing, purchasing, industrial relations, engineering, sales and distribution operations. American Thread manufactures threads and yarns for industrial and domestic use and operates a total of eight mills.

George W. Hedden Jr. has been appointed assistant manager of manufacturing for the organic chemicals division of American Cyanamid Co., New York City. He will be responsible for the operations of Cyanamid plants at Charlotte, N. C.; Marietta, Ohio; Willow Island, W. Va.; Damascus, Va.; and Bound Brook, N. J., where he will make his headquarters.

Alfred Greenfield has been named manager of merchandising for Zefran, textile fiber produced by Dow Chemical Co., and James A. Jones Jr. has been named to the post of manager of field sales for the product. Mr. Greenfield, who joined Dow recently, will work out of New York City. He will direct all merchandising activities in New York and will handle New York City mill sales contacts. He will also coordinate advertising and publicity. Mr.

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Jones, veteran of nine years with Dow, will operate from textile fibers department headquarters in Warwick, Va. He will administer the sales field forces at the mill level and customer relations and co-ordinate sales department activities with other groups in the Zefran operation.

Robert L. Hershey, general manager of Du Pont's polychemicals department, Wilmington, Del., has been elected a director, vice-president and member of the executive committee following the retirement of William H. Ward, vice-president and member of the executive committee who was with the company for 42 years. Mr. Hershey has been with the company for 21 years in research and management positions. He joined Du Pont in 1936.

Robert E. Weaver has succeeded B. Frank Morgan as North and South Carolina cellophane representative for American Viscose Corp., Philadelphia, Pa. Mr. Weaver joined the sales department of the company's film division on April 1, 1957. Mr. Morgan is retiring after a 22-year selling career with the company, having joined American Viscose in 1935.

W. Fred Davis has been elected president and treasurer of Palmetto Worsted Mill, Laurens, S. C., succeeding the late Richard C. O'Brien. B. G. Collingwood of Charlotte, N. C., replaces Mr. Davis as vice-president.

Dr. Morton Epstein, formerly assistant research director at Onyx Oil & Chemical Co., Jersey City, N. J., has joined Colgate Palmolive Co. as a scientist in its pioneering research division. Dr. Emery I. Valko, vice-president and director of research for Onyx, will join the faculty of Lowell Technological Institute on February 1 as associate professor in the division of chemistry. Also resigning from Onyx is Dr. Guiliana C. Tesoro, associate director of research, who has not made her future plans known.

Howard Richmond and Frank J. Kelly have been named executive vice-presidents of Crompton-Richmond Co. Mr. Richmond, who has been with the company since 1933, is in the merchandise division. Mr. Kelly, who joined the firm in 1956, is in the factoring division. Arthur G. Corkery, who has been in charge of business development since he joined the firm in July, has been elected a vice-president. Walter E. Gat, formerly assistant treasurer, is now assistant vice-president. Thomas De Cicco, in the credit department since 1941, is now assistant secretary.

E. H. Kittredge Jr. has been named executive vice-president of Texize Chemicals Inc., Greenville, S. C., manufacturer of textile chemicals. Mr. Kittredge was formerly vice-president and general manager of the consumer products division of the firm. He served with Jordan-Marsh Department Store of Boston, Mass., and Hickok Mfg. Co. of Rochester, N. Y., before joining Texize as assistant to the president in 1950.

Ashby E. Bladen, vice-president of the Aetna Insurance Group, was elected president of the New York Board of Trade Inc. at the group's annual election last month. Mr. Bladen succeeds Robert W. Dowling, president of City Investing Co., who was elected chairman of the board. Mr. Bladen has just completed a one-year term as chairman of the board's executive committee. He was formerly chairman of the board's insurance section.

J. R. Meikle

J. R. Meikle has resigned his post at J. P. Stevens & Co. Inc. Mr. Meikle had recently been on special assignment with the company's plants at Roanoke Rapids, N. C. He joined Patterson Mills Co., Roanoke Rapids, in 1935 and advanced to a vice-presidency and assistant managership. Patterson was later consolidated with Rosemary Mfg. Co., owned by J. P. Stevens & Co. Inc., and Mr. Meikle was transferred to Rosemary as a director, vice-president and general superintendent. Last October he was assigned special duties with the same mills. He is a member of the board of the North Carolina Textile Manufacturers Association Inc. Mr. Meikle has indicated that he will become assistant manager of the Cramerton (N. C.) Mills of Burlington Industries Inc.

Matthew C. Donahue has been appointed assistant superintendent of the manufacturing department of Indera Mills Co., Winston-Salem, N. C. Mr. Donahue has been with the company since 1955, and has been working in time study, cost control and design. He received both a bachelor's and a master's degree from Miami University, Oxford, Ohio. Prior to joining the company he served as vocational supervisor of Forsyth County (N. C.) schools for six years.

T. S. Molyneux

Thomas S. Molyneux Inc. has become the exclusive sales agent for the yarn division of Collins & Aikman Corp. in the states of Pennsylvania, New Jersey, Delaware, Maryland, Virginia, West Virginia, North Carolina, South Carolina and part of Georgia. For the past 23 years Mr. Molyneux has been the sales agent in the same territory for Massachusetts Mohair Plush Co. Inc. John C. Pickle Jr., assistant to Mr. Molyneux, will travel the same territory, but will cover in addition part of the New York City trade.

Norman L. Levin has been appointed senior sales and merchandising representative for American Cyanamid Co.'s fibers division. Mr. Levin comes to Cyanamid's sales staff for Creslan acrylic fiber from a post as department manager for the American Bleached Goods Co. He will specialize in sales, sales development and merchandising of woven Creslan fabrics in the cotton and rayon blend markets. Prior to joining the American Bleached Goods Co. in 1955,

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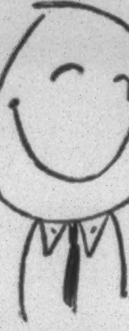

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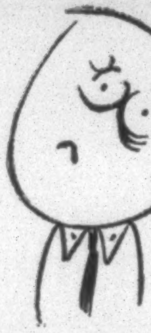

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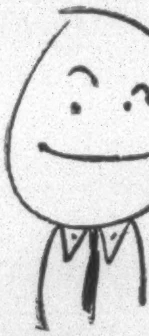

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he served for five years as division sales manager for novelty woven goods and prints at Sea Island Mills. He is a chemical engineering graduate of Brooklyn Polytechnic Institute.

Col. Louis F. Sauter Jr. has been named chief of the textile branch purchasing division at the Military Clothing & Textile Supply Agency in Philadelphia, Pa. He succeeds Lt. Col. Millard J. Miller, who has been transferred to Pakistan. Col. Sauter entered the Army in 1941 and served throughout the Pacific area. In 1958 he returned to the U. S. and was assigned to the Quartermaster officer advanced course at Fort Lee, Va. He has also served as chief of inspection at the New York Quartermaster Procurement Agency.

Spencer E. Palmer has been named first vice-president of Eastman Chemical Products Inc. and Henry L. Ford has been named vice-president of the Tennessee Eastman Co., both of Kingsport, Tenn. Eastman Chemical Products Inc. is a subsidiary of Eastman Kodak Co. which markets the products made by the Tennessee Eastman Co. Mr. Palmer moves up to the first vice-presidency from his position as vice-president. Mr. Ford comes to a vice-presidency in Tennessee Eastman from the post of vice-president in charge of chemicals division at Eastman Chemicals.

OBITUARIES

Levi Herbert Ballou, 74, an executive of The Kendall Co., Charlotte, N. C., died January 6 in Boston, Mass. Mr. Ballou's career in the textile industry began with the Universal Winding Co. In 1917 he became associated with Henry P. Kendall in the small firm which developed into The Kendall Co. From 1917 to 1924 he served as an officer of Lewis Mfg. Co. and in 1924 he was elected a director of Kendall Mills, later The Kendall Co. He served as vice-president for 20 years until 1948 when he was elected vice-chairman of the board. Mr. Ballou served as chairman of the company's finance committee from 1951 until 1954 when he retired. He continued as a director until the time of his death. He is survived by a sister.

Albert E. Cleghorn, 52, recently named president of the National Aniline Division, Allied Chemical & Dye Corp., died January 9 of a heart attack while on his way to work in New York City. Mr. Cleghorn was named president of National Aniline last November 1. He had been with the company since 1933, joining the National Aniline Division in 1952 as a vice-president and assistant to the president. He was named executive vice-president of the division in 1954. Survivors include his widow, his mother, a son and a sister.

Richard E. Ferguson, 68, president of Industrial Supply Co., Clinton, S. C., died December 27 at his home in Clinton. A graduate of Stevens Institute of Technology, Hoboken, N. J., he served as assistant superintendent of Ware Shoals (S. C.) Mfg. Co. for six years and as superintendent of Lydia Cotton Mills, Clinton, for seven years until he left in 1927 to form Industrial Supply Co. Surviving are his widow, two sons, a daughter and a sister.

Maurice Hendrick, 71, former president of the Cliffside (N. C.) Division of Cone Mills Corp., died December 23 in a Rutherfordton, N. C., hospital after several years of declining health. Until his retirement 12 years ago, Mr. Hendrick had been with the mill 45 years. He was a graduate of North Carolina State College and was a charter member and past president of the Cleveland-Rutherfordton Executives Club. He leaves his widow, his mother, two sons, a daughter, two brothers and a sister.

Edwin Howard Isenhour, 74, former Southern manager for Ashworth Brothers Inc., Fall River, Mass., textile machinery supply firm, died January 11. Mr. Isenhour was with Ashworth Brothers for 43 years prior to his retirement in 1949. He is survived by his widow, three daughters and a sister.

Joseph N. Paradis, 76, editor and publisher of *Fibre and Fabric* textile publication, died recently. He was a member of the National Association of Woolen & Worsted Overseers and had helped in the organization of state overseer groups in New England and in the South. Surviving are his son, Vincent, editor of the magazine; a daughter; and two sisters.

Nelson Carter Poe Jr., 76, former president of F. W. Poe Mfg. Co., Greenville, S. C., died December 30 at his home in Greenville. After leaving Poe Mfg. in 1937, he served as president and treasurer of Poe Hardware & Supply Co. and Poe Piping & Heating Co. Mr. Poe attended Furman University, The Citadel and Virginia Polytechnic Institute, where he received degrees in mechanical and electrical engineering. He leaves his widow, three daughters and a sister.

John Hartman Taws, 81, vice-president of The Fletcher Works, Philadelphia, Pa., died December 27. Mr. Taws founded a photographic supply house in Philadelphia some years ago, turning it over to his employees when he became vice-president of Pennsylvania Ribbon Manufacturers, which later became part of Fletcher. He was named vice-president and a member of Fletcher's board of directors in 1956. Surviving are his widow and two sons, John Heatherington Taws and Edward Town Taws, the latter current president of Fletcher Works.

Henry F. Thomas, 47, president and treasurer of Henry F. Thomas Inc., Forest City, N. C., producer of novelty yarns, died December 30. Mr. Thomas had been connected with Stonecutter Mills Corp., Spindale, N. C., for 20 years before going into business for himself. Surviving are his widow, two sons, his mother, eight brothers and two sisters.

MILL NEWS

CONSTRUCTION. NEW EQUIPMENT. FINANCIAL REPORTS. CHARTERS. AWARDS. VILLAGE ACTIVITY. SALES AND PURCHASES

Berryton, Ga. — Berryton Mills Inc. here has been bought by Henderson (N. C.) Cotton Mills. Henderson exercized an option which it had taken some time ago on a majority of the stock of Berryton. A. B. Hammond, president of Berryton, will retain his interest in the company. Purchase price was not disclosed but it was reported to be an exchange of part securities and part cash. The company will continue to be operated as Berryton Mills and Mr. Hammond will continue as president. Berryton was organized in 1910 by John M. Berry, who headed the company until his death three years ago. Mr. Hammond has been connected with the mill for 20 years and was made president on the death of Mr. Berry. The company manufactures yarns from 8s to 30s.

Worthville, N. C.—Installation of new equipment, part of a $350,000-plus modernization program, is scheduled for completion by April at Leward Cotton Mills Inc. here. The program culminates some nine years of planned improvements and diversification. The latest improvements will bring spinning operations up to a par with modernized weaving facilities of the plant. Included in the program are changes in the drawing, roving and spinning departments. Air-conditioning of the spinning room will be completed shortly. A switch-over from 11x5½-inch roving frames to 12x6½-inch frames with Pneumastop automatic devices for collecting lint is scheduled. New warp utilizing a four-inch gauge with the latest skeleton-type wheels and Vacuum-N-Collection system will be used. The changes are the result of a 12-month study conducted by the company.

New York, N. Y.—A consolidated net income of $2,538,000, equal to $2.62 per share of common stock, was reported by Riegel Textile Corp. for the fiscal year ended September 28, 1957. This compares with earnings of $3,326,000 or $3.48 per share for the company in the preceding year with $1,586,000 or $1.76 a share for the year ended October 1, 1955. Sales of the company totalled $89,486,000 for this year as against $94,685,000 in 1956.

Dalton, Ga.—Seventy-six new Meadows twisters have been installed in the twisting room of the Dalton plant of American Thread Co. The new machines replace 72 narrow gauge twisters and run a 24-ounce package. The twisters, produced by Meadows Mfg. Co., Atlanta, Ga., will permit further improvement in quality by producing a knotless package, and a package that contains a minimum of grease.

Elkin, N. C.—Chatham Mfg. Co. here has reported that it did better than the industry's average during the last year despite a continued decline in textiles. The record was attributed to Chatham employees who have contributed jointly to cost reduction programs during 1957. These savings, according to the company, were a major factor in enabling the mill to share profits on a basis equal to the previous year. Purchase of Springfield Mills and the acquisition of the North Star and Kenwood Blanket lines have meant a lot to the company, it reported. The company predicts a good year for itself in 1958.

Bennettsville, S. C.—The new plant of Oak River Mills here is now complete and the mill is in full operation. The modern, one-story structure covers an area of 150,000 square feet. At full capacity, the plant will have 250 employees. Work has been completed on other facilities such as a boiler house and scouring train, adding to the self-sufficiency of the plant. Oak River Mills is a part of Mohasco Industries Inc., Amsterdam, N. Y. It will manufacture primarily synthetic and blended yarns.

New York, N. Y.—Net profit before non-recurring income for Indian Head Mills Inc. here, for the fiscal year ended November 30, 1957, was $1,529,357 on net sales of $22,498,567. For the fiscal year 1956, net profit was $363,975 on net sales of $21,986,205. After preferred stock dividends of $280,384 paid in 1957, there remained a net profit before non-recurring income of $5.45 per share on the 229,000 shares of common stock outstanding, compared with the profit of 50 cents per common share earned in 1956. In addition, there was a non-recurring income of $382,640 or $1.67 per common share, realized during the 1957 fiscal year in real estate tax abatement proceedings and discount obtained in the prepayment of long term debt. No provision for federal income taxes was required due to the availability of tax loss carry-overs.

Guntersville, Ala. — Lakeside Mills Inc. here will be closed and the property has been sold to Boaz (Ala.) Mills. Boaz plans to supplement its regular production by running some output at the Lakeside property. Initial workforce will be about 150 persons and it is hoped that it can be increased to 200 in about a year. Dobby machinery presently in Lakeside will be shifted to Plymouth Mfg. Co. Inc., McColl, S. C. Sale of machinery will be handled by Comer Machinery Co., Atlanta. Buildings acquired by Boaz cover about 100,000 square feet. Lakeside has 608 looms and 26,608 spindles.

Greenville, S. C. — Woodside Mills, with headquarters here, has combined its plants in Anderson, Simpsonville and Liberty, S. C., into the Fancy Goods Division and has combined the Greenville, Easley and Fountain Inn, S. C., plants into the Plain Goods Division. Harold Mason will be in charge of manufacturing of the Fancy Goods Division, and Troy Carter will be in charge of manufacturing of the Plain Goods Division. The plants at Anderson, Simpsonville and Liberty produce blends of synthetics and cotton. Those at Greenville, Easley and Fountain Inn are altogether on cotton production. David Cromwell, assistant vice-president, has been placed in charge of merchandising liaison between the New York sales offices and mill production.

Greenville, S. C. — A $300,000 air-conditioning system for the warp spinning rooms of Woodside Mills' Greenville plant is expected to be in operation before June 1. A 500-ton refrigerating machine will be used for cooling. Six rotary-spray weathermakers will displace 180,000 c.f.m. The existing reservoir behind the mill will serve as the cooling pond for the system. More than 55 million gallons of water will be pumped through the system daily.

Atlanta, Ga.—Exposition Cotton Mills Co., here, recently celebrated its 75th anniversary. The firm, which produces specialties and semi-specialties, was founded in 1882. Its present officers include James S. Floyd, chairman; Emory L. Cocke, vice-chairman; and George E. Glenn Jr., president. A recent issue of the company's monthly house magazine—*The Exposition*—traced the firm's growth in the last 75 years.

Joanna, S. C.—Joanna Cotton Mills Co. here has added 48 Draper 40-inch dobby looms to its drapery department, bringing the total to 361. Some 24 Draper 90-inch looms have also been added to the No. 1 weave room.

Lenoir, N. C.—Moore Cotton Mill Co. here celebrated its 50th anniversary last month with a party for officers, directors, supervisors and long-time employees, along with Hudson Cotton Mfg. Co. and the Caldwell Cotton Mill Co. of Lenoir. R. Barton Hayes, executive head of the plants, and Harper Beall Jr., president of Moore, paid tribute to employees of the firm for their faithful service.

Leesville, S. C.—Edenfield Mills Inc., producer of French spun worsted yarn here, has shut down and is moving out its equipment. The firm is a subsidiary of Kent Mfg. Co., Clifton Heights, Pa. The 20,000-square-foot one-story building being vacated is offered for lease. This move will not interfere with the expansion program of another Kent subsidiary, The Runnymede Corp., Pickens, S. C.

Greenville, S. C. — Southern Weaving Co. here reported a net profit of $63,610 for the fiscal year ended November 30, 1957. Net profit for the previous year reached $96,473. Total current assets at the end of the fiscal year were $1,340,932 as compared with assets of $1,583,574 for the 1956 fiscal year. Liabilities were $220,076 as against the previous figure of $502,097. Inventories, at the lower cost of the market, were carried at $506,713, against total inventories of $750,863 a year earlier.

Belton, S. C.—A new $40,000 office building for the Blair Mills here will be completed early next Fall. It will be a brick structure of 2,600 square feet with ten rooms. The present office building, which is over 30 years old, will be used for storage space.

Considering Critical Speeds In Roll Design

**By VERNON J. LIBERTY, Industrial Roll Division
Rodney Hunt Machine Co., Orange, Mass.**

This concise article discusses the importance of finding the critical speed for rolls of given dimensions. The actual calculation of this critical speed is explained in relatively simple terms and an example is worked out.

THE critical speed of a rotating roll is the speed at which its revolutions per second are the same as the frequency of its natural vibrations. When this condition exists a small external force acting on the roll may set up large and dangerous vibrations.

Some kinetically and dynamically balanced rolls can operate above as well as below the critical speeds. When this is done, however, the acceleration rate of the roll should be such as to minimize the time required to pass through its critical speed.

In designing a roll, however, a change can often be made so that the critical speed will not be a factor. This brief discussion will concern itself only with the first critical speed of a roll. In most applications the second critical is never reached.

The basic formula for critical speed is: $Ne = \dfrac{187.7}{\sqrt{Y}}$

Where: Ne = First critical speed in r.p.m., Y = Maximum static deflection in inches.

Example: Suppose we want a roll of 100-inch face with a load of 1,000 pounds equally distributed across the face to operate at a speed of 2,000 surface feet per minute. What size roll and wall thickness would be required for the roll to operate below its critical speed?

Suppose the steel roll to be finished five-inches O.D. with a ½-inch wall. Assume bearings are close to the roll body, shaft deflection negligible and neglect weight of roll.

$$1 = .049\,(5^4 - 4^4) = 18.1$$

$$Y = \frac{5 \times W \times L^3}{384 \times E \times 1}$$

Where
I = Moment of inertia of roll body section
W = Weight
L = Length in inches
E = Modulus of elasticity

$$= \frac{5 \times 1{,}000 \times 100 \times 100 \times 100}{384 \times 30{,}000{,}000 \times 18.1}$$

$$Y = .024''$$

$$Ne = \frac{187.7}{\sqrt{.024}} = \frac{187.7}{.155} = 1{,}210 \text{ r.p.m. (1st critical speed)}$$

$$\text{or } \frac{\pi \times 5}{12 \text{ (inches)}} \times 1{,}210 = 1{,}590 \text{ S.F.P.M.}$$

This means roll must pass through the critical speed, which may or may not be desirable.

Now suppose we go to a finished steel roll of 6-inch O.D., ½-inch wall:

$$1 = .049\,(6^4 - 5^4) = 33.1$$

$$Y = \frac{5 \times 1{,}000 \times 100 \times 100 \times 100}{384 \times 30{,}000{,}000 \times 33.1} = .013''$$

$$Ne = \frac{187.7}{\sqrt{.013}} = 1{,}640 \text{ r.p.m.}$$

$$\text{or } \frac{\pi \times 6}{12 \text{ (inches)}} \times 1{,}640 = 2{,}580 \text{ S.F.P.M.}$$

Using a slightly larger roll we have now raised our first critical above the operating speed of the roll and should not experience vibrations of any noticeable magnitude due to the operation of this roll. It must be remembered, however, that a change in operating conditions will cause the critical speed of this roll to change.

Changes in loads and speeds on existing machines should be made only after close investigation and preferably after checking with the manufacturer. Machines are designed to operate under certain conditions. Changing these conditions may lead to serious difficulties. These difficulties often stem from rolls that either have to pass through their critical speeds or are operating too close to their critical speeds or have not been properly balanced both kinetically and dynamically for the new set of operating conditions.

Piedmont A.A.T.C.C. To Meet At Durham

The Piedmont Section of the American Association of Textile Chemists & Colorists will hold its quarterly meeting in Durham, N. C., on April 11-13, 1958. Warren Rixon, Union Carbide & Chemical Co., Charlotte, N. C., who is sectional chairman, will preside. Headquarters for the meeting will be the Washington Duke Hotel. The Piedmont Section includes both Carolinas and Virginia.

Yarn Research Completed At Clemson

Research seeking the correlation between the results of imperfection counter and yarn appearance grade of yarn samples has been completed at Clemson College. The research was conducted by Charles V. Wray, associate professor of textiles, as a J. E. Sirrine Foundation project.

The electronic yarn imperfection counter, one of the industry's more recently developed testers, was used to determine the number of imperfections per unit of yarn. Imperfections counted are neps, naps, motes and other common yarn imperfections. After the project was started, Mr. Wray reported, the scope of study was increased to include the degree of correlation between neps per 100 square inches of the card web and yarn imperfection counter results.

According to Mr. Wray, the research establishes the degree to which neps, naps, motes and other common yarn imperfections affect the classifying of yarn samples into the various yarn appearance grades as developed jointly by the American Society for Testing Materials and the Agricultural Marketing Administration of the U. S. Department of Agriculture. It also establishes the degree that card web neps count per 100 square inches will indicate imperfections to be expected in the subsequent yarn.

New Textile Hall Directors Named

Roger Milliken, president of Deering Milliken & Co. Inc.; R. D. Sellers, president of Southern Bleachery & Print Works, Inc.; and Earle R. Stall, vice-president of Cone Mills Corp., have been elected to directors of Textile Hall Corp., Greenville, S. C. They succeed the late J. W. Arrington Jr., Fred W. Symmes and Thurmond Chatham.

All officers of the corporation were re-elected. They are W. G. Sirrine, board chairman; James H. Woodside, president and treasurer; Sydney Bruce, Piedmont Plush Mills, vice-president; and Miss Bertha Green, secretary.

In addition, Ellison S. McKissick, Alice Mfg. Co., Easley, S. C., was elected to the executive committee.

N.A.W.M. Disputes Defense Mobilizer's Finding

The National Association of Wool Manufacturers has raised several questions on Defense Mobilizer Gordon Gray's finding that while the wool industry is essential, competitive imports do not threaten national security.

In a letter to the Office of Defense Mobilization director, the N.A.W.M. said, "Because you accept our general premise that an adequate wool textile industry is essential to national security we urge O.D.M. to keep under constant surveillance the effect of imports on the industry and hence on national security."

Mr. Gray's finding came in response to a petition sent to him by the N.A.W.M. in March 1956, which asked for an investigation of its belief that imports threatened security. The petition cited the sharply rising imports and the 50 per cent industry contraction since 1946, which made the association doubt that the industry could meet mobilization needs.

Under the present Trade Agreement Act the defense mobilization director is to notify the president if he finds imports threaten security. The president, if he agrees, can "adjust" imports to end the threat.

The association reply noted the finding was "fundamentally based" on an interim Defense Department estimate of its emergency wool textile needs, and that interim estimates are subject to confirmation or revision.

Questioned in the association's letter was Mr. Gray's belief that "in a mobilization period we may rely on substantially full production on existing and new capacity through allocation and achieve all our domestic and export requirements for military and civilian use."

Also questioned was Mr. Gray's prediction that "foreseeable productive capacity remains several times greater than direct military requirements." The N.A.W.M. warned that unchecked imports of wool textiles could speed mill liquidation, thus affecting capacity and invalidating all predictions. It called for an improvement of the Geneva Reservation to prevent uneven impact of imported cloth.

The reservation, the association noted, applies only to cloth and not to other wool textiles, and that reduced

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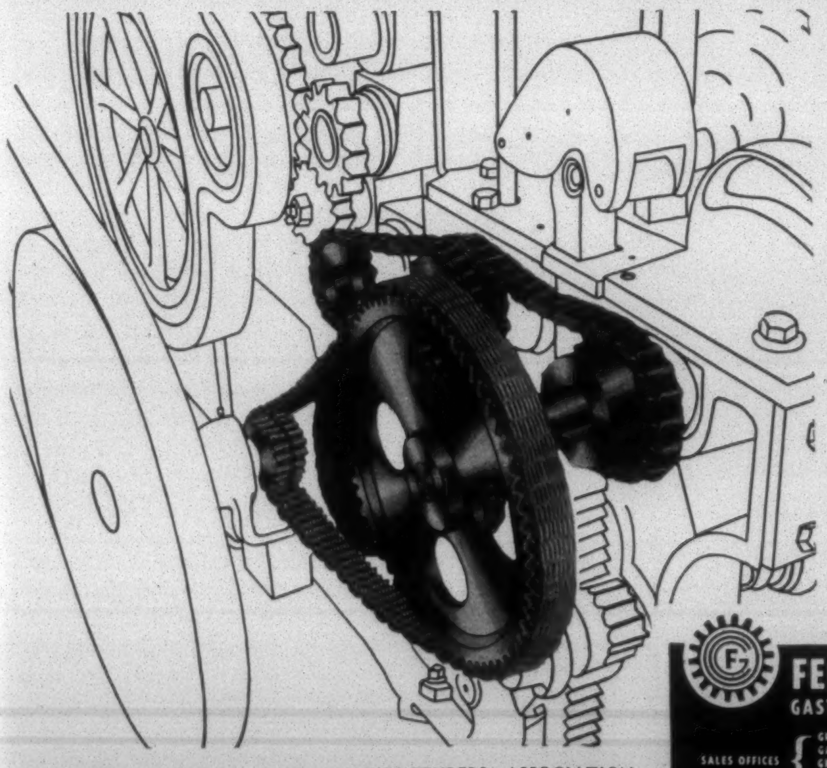

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U. S. duties are not adequate to offset the vast advantage of foreign mills. "We are not only concerned with the absolute volume of imports," the N.A.W.M. letter said, "but also with their precipitous increase and their uneven impact on our mills."

Greater Use Of Leased Equipment Seen

The prediction that many cotton mills will be operating their plants with leased equiupment within the next ten years has been made by William R. Heins in a study entitled "Leasing and American Industry." Mr. Heins is president of the United States Leasing Corp.

The major virtue of leasing, according to Mr. Heins, is that it frees working capital for expansion of sales, taking of all trade discounts, building balanced inventories, expanding research and development work, etc

Leasing, according to the study, will become increasingly important in industries whose ratio of fixed assets to tangible net worth is at least 30 per cent. In the cotton cloth mill industry it is 47 per cent. Advantages of leasing include the fact that a manufacturer does not have to freeze his own capital in equipment and that he does not have to worry about equipment becoming obsolete since most leases are from three to five years.

Free copies of the study are available from the Foundation for Management Research Inc., 121 West Adams St., Chicago 3, Ill.

Cotton Research Clinic Program Announced

Progress on an experimental carding machine which uses air flow and mechanics to eliminate the revolving flats will be reported at the ninth annual Cotton Research Clinic to be held February 12, 13 and 14 in Pinehurst, N. C. The new process will be discussed by Ralph A. Rusca of Southern Regional Research Laboratory. Tests so far indicate the machine will provide much more efficient waste removal.

Other new developments to be reported at the clinic will be in the fields of cotton fiber testing, measuring fiber length and measuring trash content of ginned cotton. One full session will be devoted to the infrequently discussed subject of cotton combing.

The National Cotton Council, sponsor of the clinic, expects attendance to total more than 250. Conferees will include representatives of textile mills, machinery manufacturers, educational institutions, government and private research laboratories, cotton merchants and representatives of associated industries.

The featured foreign speaker will be Harry Brasseur, managing director, Filatures Noubelle Orleans, S. A., Ghent, Belgium. Halbert M. Jones, president and treasurer of Waverly Mills Inc., Laurinburg, N. C., and first vice-president of the American Cotton Manufacturers Institute, will be general chairman of the clinic.

Session chairman will be Bertrand W. Hayward, president, Philadelphia Textile Institute; Horace Pennington, assistant to the general manager and vice-president, Cone Mills Corp., Greensboro, N. C., and president, Southern Textile Association; Harry Defore, cotton department, Deering Milliken Service Corp.; and Nelson Getchell, acting manager, technical section, the National Cotton Council.

In all, 19 papers will be presented during the five technical sessions scheduled. The first session on Wednesday, February 12, will be devoted to combing and will feature "A Study of Cotton Combing" by Carl D. Brandt, Whitin Machine Works, Whitinsville, Mass.; "Comber Lap Preparation—Effect on Yarn Quality," Dr. Hunter Cauble, A. M. Smyre Mfg. Co., Gastonia, N. C.; and "A Study of the Effect of Half Lap Needling on Combing Efficiency," P. S. Sperling, Coats & Clark Inc., Newark, N. J.

The second session, also on Wednesday, will feature "Evaluation of Yarn Quality," James M. Heavner, Botany Cottons Inc., Gastonia, N. C.; "The Effect of Spinning Roll and Run-Out On Yarn Quality and Processability," Lawrence O. Bragg, Institute of Textile Technology, Charlottesville, Va.; and four progress reports on use and application of the nepotometer: "Some Factors That Affect Test Results," Ruby K. Worner, Southern Regional Research Laboratory, New Orleans, La.; "Use As A Mill Instrument," Leon D. Pryor, Kendall Mills Co., Paw Creek, N. C.; "Means for Measuring Neps Produced By Ginning Treatments," Jacob V. Shepherd, Stoneville (Miss.) Ginning Laboratotry; and "Laboratory Evaluation of Nep Potential," R. Hobart Souther, Cone Mills Corp., Greensboro, N. C.

This will be followed by the annual clinic dinner on Wednesday night. Ed Lipscomb, director of sales promotion and public relations, National Cotton Council, will speak on "A Clinical Look at Cotton Promotion."

In the third technical session Thursday morning the following talks will be given: "Manufacturing Performance and the Evaluation of Fiber Quality," Burt Johnson, National Cotton Council, Memphis, Tenn.; "Transmission of Cotton Fiber Properties to Textiles," Ludwig Rebenfeld, Textile Resarch Institute, Princeton, N. J.; "A Rapid Method for Obtaining Length Characteristics of Lint Cotton," Joseph T. Rouse, U. S. Department of Agriculture, Washington; and "A Pneumatic Method of Measuring Cotton Fiber Staple Length," Hugh M. Brown, research consultant, Clemson, S. C.

The fourth session will be held Thursday evening, and will be devoted to Mr. Brasseur's paper on "Spinning Tests for Predicting Yarn and Fabric Quality."

At the final session on Friday morning the following papers will be delivered: "Predicting Ends Down From Small Lot Spinning Tests," Henry K. C. Woo, North Carolina State College; "Optical Measurement of Trash Content of Ginned Cotton," Cameron A. Baker, U. S. Testing Co., Hoboken, N. J.; "Measuring Fiber Maturity with the Micronaire," Walter E. Chapman Jr., Mesilla Park (N. M.) Ginning Laboratory; "An Investigation of Air Pressures in the Cotton Card," A. L. Miller, Southern Regional Research Laboratory; and "Carding Without Flats—A Report on the S.R.R.L. Card," Ralph A. Rusca, Southern Regional Research Laboratory.

Bachenheimer Chairman Of Textile Section

Ralph J. Bachenheimer, Iselin-Jefferson Co., has been elected chairman of the textile section of the New York Board of Trade. Mr. Bachenheimer, in the Iselin-Jefferson organization, is merchandising and sales manager of the Haynsworth Mill of Woodside Mills, Anderson, S. C., and also of the Shelby (N. C.) Cotton Mills. For the past two years he has been chairman of a joint committee on labeling of textile and apparels, representing 32 associations co-operating with a congressional committee handling labelng legislation. He was the first recipient of the "Man of he Year" award presented by the textile section of the Young Men's Board of Trade in 1956.

Thomas O. Boucher, vice-president of Chicopee Mfg. Corp., was re-elected vice-chairman and William H. Dribben, vice-president of Cone Mills Corp., as treasurer. William P. Wright Jr., vice-president of the J. Walter Thompson Co., was elected as section representative to the board of trade's directorate. He is the retiring section chairman. . .

The textile section is a trade group composed of over 00 mills, commission houses, manufacturers and firms in llied industries, which was organized in 1927.

Quality Control Conference Planned

The eighth annual conference of the textile division of the American Society for Quality Control will be held January 30 through February 1 at Clemson College, Clemson, S. C., according to conference chairman Jim Wheeler Canton (Ga.) Cotton Mills.

Following opening remarks by Mr. Wheeler and a welcome by Dean Gaston Gage of the School of Textiles, the group will hear a paper entitled "What Management Expects from Quality Control," by John C. Martin, J. P. Stevens & Co. Inc., Greenville, S. C., as the opening session.

Five sessions will be held on Thursday, January 30, and another five on Friday. The sessions will feature invited papers, study groups and presentations of basic A.S.Q.C. concepts. Saturday will be given over to tours with an industrial, an educational and a historical tour available.

Exhibits sponsored by various manufacturers of quality control and testing equipment will be set up in the lobby of the Clemson House. Representatives will be on hand to discuss the exhibits. A registration fee of $15 for members and $20 for non-members is being charged for the conference.

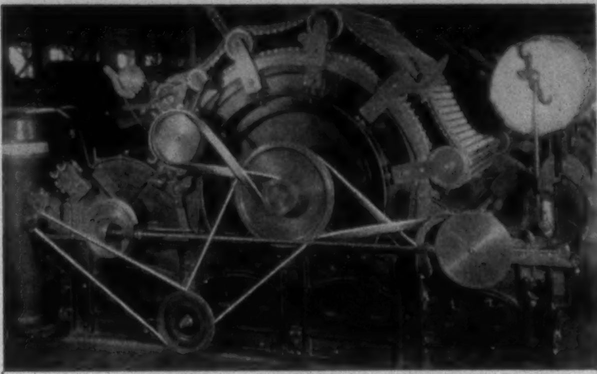
A.C.M.I. Proposes Tax Changes

A 17-point Federal tax revision program has been submitted to Congress by the American Cotton Manufacturers Institute, pleading that the industry's economic situation is the most precarious in 20 years. The institute is asking for a reduction in the corportate tax rate from 52 per cent to 47 per cent beginning June 1, with progressive reductions to follow.

Andrew J. Cothran, secretary of Graniteville (S. C.) Co. and chairman of the A.C.M.I. tax committee appeared before the House Ways and Means Committee on January 13. The committee is considering proposals to revise the Internal Revenue Code of 1954.

The following suggestions were made by the A.C.M.I.:

A study of capital gains rates, with the idea of basing such rates on the length of the holding period; a current value depreciation policy on equipment and facilities; L.I.F.O. tax treatment based on cost or market, whichever is lower; retention of present laws governing methods of depreciation or amortization of improvements made by a lessee on the lessor's property; an increase in charity contribution exemptions for corporations but no further restriction on establishment of charitable trusts; prevention of use of premium payments test in determining whether life insurance proceeds are includable in the gross estate



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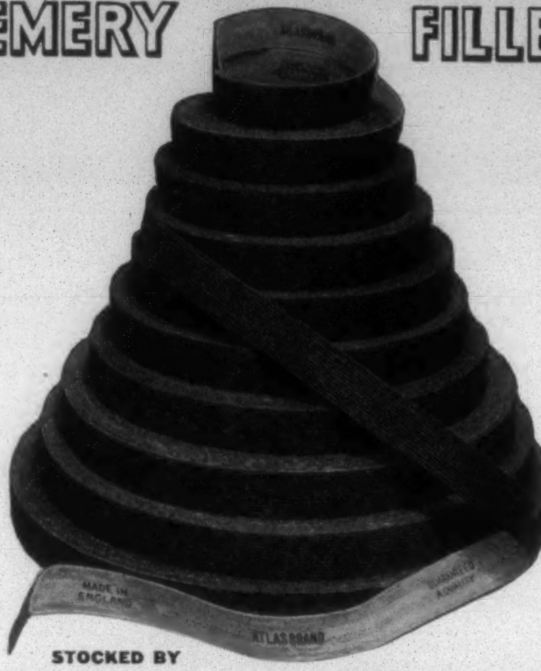

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for estate tax purposes; allowance of 100 per cent credit on intercorporate dividends; elimination of two per cent additional tax for filing consolidated returns; exemption of the textile industry from the renegotiation law; in the case of a change in the accounting methods no adjustments be required prior to 1954; clarification of the burden of proof rule in corporate accumulated earnings tax cases; clarification of the rule governing interest on deficiencies and overassessments; support of proposed legislation permitting a pension trust to invest in unsecured debentures of an employer corporation; restoration to the code of Section 452 which allowed spreading prepaid income such as rental over taxable years for which such prepaid items apply; restoration of Section 462, which would permit taxpayers to set up each year reasonable reserves for such estimated expenses as discounts and vacation pay; integration of sections which would allow stock of closely-held corporations to be redeemed at capital gains rates to the extent of the estate and inheritance taxes and administration and funeral expenses.

The committee was told by Mr. Cothran that the textile industry's foreign and domestic markets had been seriously restricted by the lowering of tariff barriers and because U. S. cotton "has been made available to foreign manufacturers at prices six to eight cents a pound cheaper than its price to U. S. textile manufacturers."

He blamed the fact that many of the largest companies in the industry now have funded debts on the Government's failure to decrease taxes during the post-war period, and the fact that corporate taxpayers are compelled to pay up to 50 per cent of their income taxes in advance on an estimated basis.

Continued expansion of U. S. business, and avoidance of future economic depressions, Mr. Cothran said, depend to a great extent on his recommended reduction of the corporate tax rate to provide needed growth capital. He referred to the textile industry.

Job Interviews For Textile Grads Up

Bidding for graduates of the School of Textiles at North Carolina State College is getting stronger, according to G. H. Dunlap, director of the Placement Bureau.

The number of interviews per student is expected to reach a new high when interviews for job placement are completed in March. Interviews through December have totalled 419. Several new industries are reported to have entered the bidding recently.

In 1956, interviews per student averaged 17.1 each. The average in 1957 rose to 17.3 per student.

Non-Woven Fabric Symposium To Be Held

Eight panelists have been named for the non-woven fabrics symposium of the textile section, New York Board of Trade. The symposium will be held Tuesday, January 28, at a luncheon meeting at the Sheraton-Astor Hotel.

Panelists and their subjects are: Howard F. Shearer, American Viscose Corp., Marcus Hook, Pa., "Cellulosic Fibers"; J. R. Emery, E. I. du Pont de Nemours & Co., Wilmington, Del., "All Other Fibers, Including Nylon and Acrylics"; R. G. Stoll, Celanese Corp. of America, Charlotte, N. C., "Bonding Agents for Non-Wovens"; John Smith, Chicopee Mfg. Corp., Milltown, N. J., "Methods of Manufacturing Non-Woven Fabrics"; Doyle C.

Nicely, Chemstrand Corp., Decatur, Ala., "Finishing and Dyeing of Non-Woven Fabrics"; D. V. Probasco, Wellington, Sears Co., "Engineering and Designing Non-Woven Fabrics for Specific End Uses"; William M. Klothe, Pellon Corp., "Sales and Merchandising of Non-Woven Fabrics"; and Stephen I. Rudo, Werner Textile Consultants, "The Future of Non-Woven Fabrics."

Panel moderator will be Thomas O. Boucher, Chicopee Mfg. Co., chairman of the committee arranging the symposium. A question and answer period will follow the presentations of the panelists. Samples of non-woven fabrics will be displayed showing the various end uses served by non-wovens.

Packaging Exposition Set For N. Y.

For the first time in 14 years, the American Management Association will hold a National Packaging Exposition in New York City, May 26-30. Some 40,000 persons are expected to attend the five-day show at the Coliseum. The exposition will be open all day on Memorial Day, May 30.

Some 365 exhibits covering the entire packaging field, including packaging machinery, materials and methods, will take up 125,000 square feet of space and all four floors of the Coliseum. The show will be open for a total of 41 hours. The addition of a fifth day makes it the longest show in the 27-year history of the event.

A two-dollar registration fee will be charged. A committee will allocate the proceeds to projects designed to advance packaging technology and to a reduction for 1958 exhibitors of the cost of booth space for the 1959 packaging show.

The association's National Packaging Conference will be held concurrently with the exposition at Hotel Statler. The three half-day sessions will explore the complete packaging programs of three top firms.

Owens-Corning Scholarship Awarded

Preston Gwyn Baker Jr., a junior in the School of Textiles at North Carolina State College, has been awarded the Owens-Corning Fiberglass Corp. scholarship for the current college year. His selection was announced by G. H. Dunlap, chairman of the scholarship committee in the college's School of Textiles.

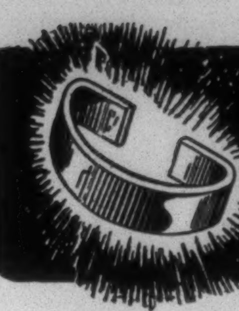
Under terms of the scholarship, Mr. Baker's tuition and fees will be paid, and he will receive $500 per college year. The award may be renewed for his senior year of study.

Mr. Baker, who has a "B" average, is majoring in textile chemistry. He is a member of the State College Student Chapter of the American Association of Textile Chemists & Colorists.

Textile Electrical Conference Planned

The annual American Institute of Electrical Engineers' Textile Electrical Conference will be held at the Georgia Institute of Technology, March 13 and 14. The conference is held under the joint sponsorship of the A.I.E.E. Textile Industry Subcommittee and the Electrical Engineering School, the A. French Textile School, and the Extension Division of Georgia Tech.

The following technical papers will be presented at the



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conference: "An Ideal Electrical Layout for a Textile Mill," Morris V. Gelders, Lockwood Green Engineers Inc., Spartanburg, S. C.; "Selling Planned Maintenance to Yourself and Your Management," H. P. Hauck, General Electric Aparatus Service Shop, Atlanta, Ga.; "Subcommittee Report on Recommended Practices for Electrical Installations on Textile Machinery," R. H. Clark, Warner & Swasey Co., Cleveland, Ohio; "Textile Motor Selection Based on Maintenance Records," H. S. Colbath, Bibb Mfg. Co., Macon, Ga.; "Maintenance of Production Instrumentation Control in the Textile Mill," A. L. Humphrey, Avondale Mills, Sylacauga, Ala.; "Fundamentals of Magnetic Amplifiers," M. H. Fisher, Westinghouse Electric Co., East Pittsburgh, Pa.; "Present and Future Applications for Computers and Data Handling Equipment in the Textile Industry," J. W. Wedding, I.B.M. Corp., Atlanta, Ga.

Purpose of the annual conferences is to assist mill operators in promoting safety, increasing productivity and reducing costs through increased knowledge and the use of modern electrification practices and equipment.

Shuttle Travels 293,696 Miles

"Old Ironsides," a retired shuttle of the Jefferson (Ga.) Mills Inc., has traveled some 293,696 miles in its day, according to figures worked out by company engineers. The shuttle was christened "Old Ironsides" when it was discovered that it had been in operation for three years and three months.

A contest was conducted by the company to see who could guess most closely how far the shuttle had traveled. The first prize of a fruit cake was won by Eleanor Jackson, lunchroom employee, with a guess of 292,796 miles.

A.T.M.A. Committees Appointed

Appointment of two committees of the American Textile Machinery Association has been announced by James H. Hunter, president of the association.

Chairman of A.T.M.A.'s Exhibition Committee is J. H. Bolton Jr., vice-president and director of sales of Whitin Machine Works, Whitinsville, Mass. Serving with Mr. Bolton are William K. Child, vice-president, Draper Corp., Hopedale, Mass.; Robert Leeson, president of Universal Winding Co., Providence, R. I.; John C. Morrison, vice-president and treasurer of Morrison Machine Co., Paterson, N. J.; Frederic W. Howe Jr., president of Crompton & Knowles Corp., Worcester, Mass.; W. F. Lowell Jr., assistant to vice-president in charge of sales, Saco-Lowell Shops, Boston, Mass.; Thomas L. Stilwell, sales manager of the textile division, Warner & Swasey Co., Cleveland, Ohio; William Terrell, vice-president, Terrell Machine Co., Charlotte, N. C.; and Mr. Hunter, president of James Hunter Machine Co., North Adams, Mass.

Functions of the Exhibition Committee will include planning for the A.T.M.A.-sponsored 1960 Textile Machinery Exhibition, and association participation in interim exhibitions.

A Public Relations Committee has been named to work with the Exhibition Committee, and other A.T.M.A. groups. It is comprised of the following: George McRoberts, advertising manager, Whitin Machine Works, chairman; James Grant, advertising manager, Draper Corp.; John Freed, director of public relations, Universal Winding

Co.; Ed Connor, vice-president of Foster Machine Co., Westfield, Mass.; Maynard Ford, general manager of Parks-Cramer Co., Fitchburg, Mass.; Sumner Smith Jr., treasurer, Abington Textile Machinery Works, Abington, Mass.; John C. Nash, sales director, Marshall & Williams Corp., Providence, R. I.; John Cocker III, president of Cocker Machine & Foundry Co., Gastonia, N. C.; and Alfred L. Landau, of the advertising division, Saco-Lowell Shops. Mr. Hunter and Mr. Child, president and vice-president of the association, are ex-officio members of the committee, also.

Mildred Barnwell Andrews, executive secretary of the association, will serve as secretary also to the two committees. Meetings of the two groups are scheduled for January 29 and 30 at the Uxbridge Inn, Uxbridge, Mass., where they will be guests of Whitin Machine Works.

Cotton Consumption Figures Released

Cotton consumption in the U. S. during the 12 monthly reporting periods ended July 31, 1957, totalled 8.7 million bales, according to the U. S. Department of Commerce. During the same period cotton exports amounted to 7.6 million bales.

The revised figure on cotton carry-over at the end of the period is 11.3 million bales. This represents a decline of 3.2 million bales from the July 31, 1956, carry-over of 14.5 million bales.

During the 12-month period, consumption of linters amounted to 1.4 million bales. Bleachers consumed 0.8 million bales while other consumers accounted for 0.6 million bales. Stocks of linters at the end of the season amounted to 0.8 million bales or 0.2 million less than stocks at the end of July 1956.

Consumption of man-made fiber staple by mills with cotton system spindles amounted to 452 million pounds. Of this total, 374 million pounds were rayon and/or acetate.

Synthetic Fabrics Production Static

Production of broad woven goods of man-made fibers and silk totalled 562 million linear yards for the third quarter of 1957, approximately the same as the second quarter 1957 and 12 per cent above the third quarter 1956 output. Rayon and acetate fabric production was one per cent below the previous quarter but one per cent more than the output during the comparable period of 1956. Production of other man-made fiber fabrics, silk included, was at approximately the same level as the previous quarter and 41 per cent above the third quarter 1956.

These figures represent the entire production of man-made fibers and silk broad woven fabrics over 12 inches in width. Estimates are included for manufacturers whose re-

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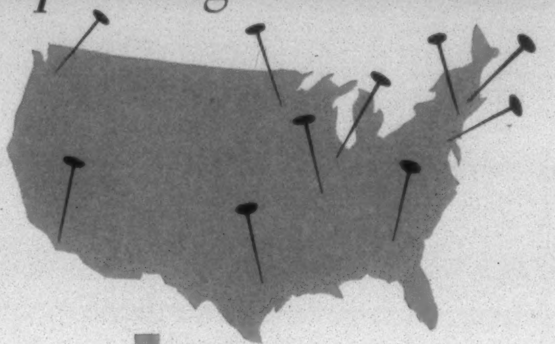

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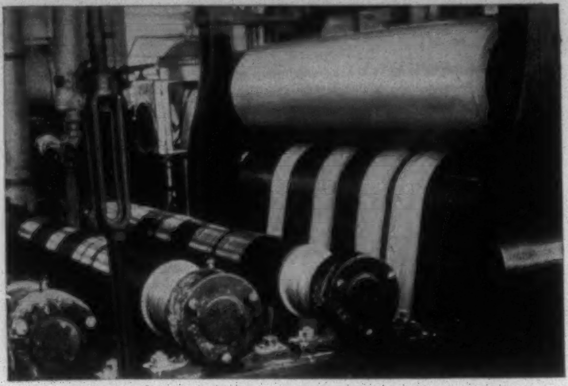

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ports were not received in time for tabulation. Such companies accounted for six per cent of the total production.

panies accounted for six per cent of the total production.

The figures were compiled by the U. S. Department of Agriculture.

Cotton And Man-Made Fibers Show Slump

U. S. cotton consumption in November 1957 amounted to 656,205 running bales as compared with 819,816 bales the previous month and 870,069 bales in November of 1956. For the four months through November the total was 2,802,221 bales as compared with 3,108,469 for the previous year. Stocks on hand at the end of the month were 12.7 million bales against 18.3 million at the end of November 1956.

Cotton-growing states accounted for 628,436 bales of the November 1957 total and New England accounted for 24,238 bales. Foreign cotton consumption for the month totalled 6,031 bales as compared with an October total of 6,969 bales.

Total consumption of man-made fiber staple for November was 36 million pounds. Of that total, rayon and acetate accounted for 30 million. Total for the previous month was 46 million pounds and for November 1956, 44 million. Stocks on hand at the end of the month were 51 million pounds.

Consumption of linters for the period was 102,965 bales as against 107,298 in October and 128,710 in November 1956.

Some 21,103 thousand cotton system spinning spindles were in place at the end of the month with 18,133 thousand of them active. Cotton system spinning spindles in place at the end of November 1956 totalled 21,658 thousand.

Woolen And Worsted Production Up In 1956

Figures on woolen and worsted fabric production for 1956, recently issued by the U. S. Department of Commerce, show that production of those fabrics totalled some 325 million linear yards or two per cent above the 1955 total of 318 million yards and 14 per cent above the 1954 output of 284 million yards.

Apparel fabrics accounted for 311 million yards of the 1956 total. In 1955 apparel fabrics totalled 298 million yards and in 1954, 262 million yards. Of the apparel output, 153 million yards were for men's and boys' clothing and 156 million yards for women's and children's clothing. The 1956 production figures in these two categories of fabric were nine and three per cent higher, respectively, than the previous year.

Production of non-apparel fabrics was 14 million linear yards compared to the 1955 output of 20 million yards and the 1954 total of 22 million yards.

At the end of 1956 there were 16,479 looms in place in mills primarily producing woolen and worsted fabrics as compared with 18,606 looms reported in place at the end of 1955. This decline is accounted for by mills that went out of business during the year, and mills that changed their principal fabrics production from woolen and worsted to cotton and man-made fiber fabrics.

Quarterly reports in 1956 were filed by companies accounting for approximately 93 per cent of the production of broad woven woolen and worsted fabrics and annual reports by almost all others.

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528 CFM 100 psi 14x12 Ing. ER1
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622 CFM Vacuum 18x6 Ing.
686 CFM 100 psi 14x13 Worth HB
800 CFM Vacuum 18x9 Worth
877 CFM 100 psi 17—10½x14 Ing. XRB
1016 CFM 55 psi 17x13 Ing. ES
1085 CFM Vacuum 21x9 Worth
1270 CFM 40 psi 19x13 Ing. ES1
2032 CFM Vacuum 26x11 American

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1292 CFM 22 x 9 ER1

Pennsylvania De2
590 CFM 125 psi — 13½ — 8 x 8
100 HP 3 — 60 — 220 • 8 PF

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Charlotte 9, N. C.

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QUALITY YARNS FOR SALE!
12's to 80's
Single, Carded, Combed and Pima
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Yarn Sales Dept., Fort Mill, S. C.
Tel. 2901—Extension 93

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- Firms having textile mill equipment for sale also find Textile Bulletin classified advertisements valuable in establishing business contacts.

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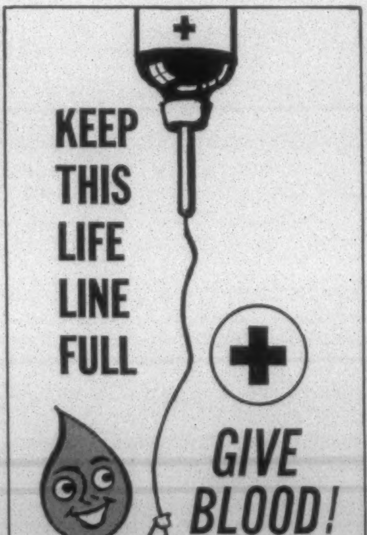
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